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June 23, 2025

via email

Ms. Colleen T. Doan
Community Development Manager
City of Signal Hill
2175 Cherry Avenue
Signal Hill, California 90755

RE: **Memorandum – Study of Human Health Risks Due to Outdoor Air Exposure at Proposed Walnut Bluff Development, City of Signal Hill, California 90755, dated April 16, 2025 prepared by Catalyst Environmental Solutions**

Dear Ms. Doan:

The Study of Human Health Risks Due to Outdoor Air Exposure at Proposed Walnut Bluff Development, City of Signal Hill, California 90755, dated April 16, 2025, prepared by Catalyst Environmental Solutions (Catalyst) was received and reviewed on April 16, 2025.

Catalyst estimated cancer risk due to exposure to benzene only and all petroleum-related chemicals of potential concern (COPCs) measured during the month of October 2024 onsite in outdoor air using acceptable regulatory agency guidance.

Catalyst excluded the benzene concentration of 3.2 micrograms per cubic meter ($\mu g/m^3$) detected in October 2024 at onsite location WB05 and used Dixon's Outlier Test to statistically demonstrate this detected concentration was an outlier. Catalyst also performed additional air sampling during December 2024 at four locations and recorded detected concentrations of benzene at 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$ and 1.9 $\mu g/m^3$, all greater than the concentrations of benzene detected in October. Catalyst did not include these five detected concentrations of benzene in their risk estimates.

Mearns Consulting LLC (Mearns) was able to replicate Catalysts' risk estimates. Mearns also estimated cancer risk for benzene only and all petroleum-related COPCs including the five detected concentrations of benzene: 3.2 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$ and 1.9 $\mu g/m^3$ omitted by Catalyst. The results are presented below.

Benzene Cancer Risk Calculations

Scenario	Benzene Cancer Risk	All Petroleum-Related COPCs Cancer Risk
MATES V – Regional All Data	1.1×10^{-5}	1.0×10^{-5}
Catalyst Walnut Bluff Offsite Samples	1.0×10^{-5}	1.1×10^{-5}
Catalyst Walnut Bluff Onsite Samples	8.6×10^{-6}	1.0×10^{-5}
Walnut Bluff Onsite Samples including WB05, and 4 samples collected in December 2024	1.47×10^{-5}	1.6×10^{-5}

The Mearns calculated risk estimate 1.47×10^{-5} for benzene and 1.6×10^{-5} for all petroleum-related COPCs includes the five data points for benzene (3.2 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$ and 1.9 $\mu g/m^3$) omitted by Catalyst, is greater than the risk estimates calculated by Catalyst, is within the regulatory agency acceptable risk range of 1×10^{-4} to 1×10^{-6} and less than the SCAQMD Air Toxics Hotspots threshold of 1×10^{-4}. Excluding the detected concentration of 3.2 $\mu g/m^3$, that Catalyst identified as an outlier, from the benzene cancer risk calculations results in a benzene cancer risk of 1.4×10^{-5}, which is not statistically different from the risk calculation 1.47×10^{-5}.

The benefit of including all detected concentrations of benzene in the onsite risk calculations is a more robust risk estimation due to exposure of the outdoor concentrations of benzene detected in the 28 days samples were collected from two separate months with different conditions. The different conditions make the dataset more representative of onsite conditions to which the future site occupants will be exposed.

Comparing Onsite Results to MATES V

The dataset analyzed in the MATES V Study included 60 days of data collected over a 12 month period in 2018-2019 to account for seasonal variability. The dataset analyzed in the Catalyst study included 14 days of data collected in October 2024 only. The differences between the MATES V Study and the Catalyst study include the duration of the data collection, the year of the data collection and the seasonal data collection. As demonstrated by the data collected by Catalyst in December 2024 with greater detected concentrations of benzene than the October dataset, seasonal variability occurs.

Mearns agrees with Catalysts' conclusions that the onsite risk due to exposure to benzene (1.47×10^{-5}) and petroleum-related COPCs (1.6×10^{-5}) is comparable to the risk estimations in the MATES V Study (1×10^{-5}), is less than the SCAQMD Air Toxics Hotspots threshold of 1×10^{-4}, and is within the regulatory agency acceptable risk range of 1×10^{-4} to 1×10^{-6}.

Please do not hesitate to contact me should you have any questions.

Sincerely,

Susan Mearns

Susan L. Mearns, Ph.D.
Mearns Consulting LLC

Study of Human Health Risks Due to Outdoor Air Exposure at Proposed Walnut Bluff Development

City of Signal Hill, California

April 16, 2025

Prepared for:
City of Signal Hill
2175 Cherry Avenue
Signal Hill, CA 90755

Prepared By:
Catalyst Environmental Solutions
315 Montana Avenue, Suite 311
Santa Monica, CA 90403

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GLOSSARY

AQMD	South Coast Air Quality Management District
ATSDR	Agency for Toxic Substances and Disease Registry
BTEX	benzene, toluene, ethylbenzene, total xylenes
Comparable	used herein to mean similar in quality and quantity
COPC	chemical of potential concern
CSM	Conceptual Site Model
CVOCs	chlorinated volatile organic compounds
DTSC	California Department of Toxic Substances Control
EPC	Exposure Point Concentration
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
ILCR	individual incremental lifetime cancer risk
MATES V	Multiple Air Toxics Exposure Study V
OEHHA	California's Office of Environmental Health Hazard Assessment
Offsite	Monitoring and sampling locations studied herein not located on the Site labelled WB17, WB18, labelled WB19
Onsite	Walnut Bluff property, including monitoring and sampling locations WB01 through WB16
PCE	Tetrachloroethene
PID	Photo-ionization detector
ppbv	parts per billion by volume
Region / Regional	Air quality and associated risks documented in the MATES V Study
Report	Study of Human Health Risks Due to Exposure to Outdoor Air [at the] Proposed Walnut Bluff Development
REL	Reference Exposure Level
RL	reporting limit
RME	Reasonable Maximum Exposure
RSL	Regional Screening Levels
AEGL	Acute Exposure Guideline Level
USDOE	United States Department of Energy
AGV	acute Air Guidance Values
SCAQMD	South Coast Air Quality Management District
SHP	Signal Hill Petroleum
Site	Walnut Bluff property
SL	screening level
µg/m^3	micrograms per cubic meter, also known as parts per billion by mass
UCL	upper confidence level
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

ABSTRACT

On behalf of the City of Signal Hill (City), Catalyst Environmental Solutions Corporation (Catalyst) evaluated the quality of, and potential risks to human health posed by, outdoor air at an approximately 2-acre property located at the corner of Willow Street and Walnut Avenue in the City of Signal Hill, Los Angeles County, California (Site). This Site is currently owned by Signal Hill Petroleum (SHP). The quality of outdoor air was characterized by 14-day, 1-day, and 1 hour time integrated samples collected between October 1 and October 15, 2024 and by 4 onsite 14-day samples collected in December 2024. The samples were collected from 14 locations distributed across the Site and from 3 nearby properties also owned by SHP. The samples were analyzed by a California certified laboratory method TO-15sim to provide measurable concentrations of volatile organic compounds (VOCs). The results indicate that the 14-day analytical results and risks based on the onsite samples and offsite samples are comparable to the risks presented in the South Coast Air Quality Management District's Multiple Air Toxics Exposure Study V (MATES V) performed for the broader Los Angeles basin in 2018 and 2019. In summary, the onsite air quality measured in October 2024 poses no additional measurable risk to human health compared with offsite and regional conditions, and the outdoor air quality measured at the Site is comparable to regional air quality conditions characterized by the MATES V study.

SECTION 1

Introduction

On behalf of the City of Signal Hill (City), Catalyst Environmental Solutions Corporation (Catalyst) prepared this Study of Human Health Risks Due to Exposure to Outdoor Air at the Proposed Walnut Bluff Development (Report) located at the corner of Willow Street and Walnut Avenue in the City of Signal Hill, Los Angeles County, California (Site; Figure 1). The overall purpose of this Report is to present the findings from the assessment of human health risks posed by volatile organic compounds (VOCs) detected in outdoor air samples collected at the Site between October 1 and October 15, 2024.

The Site consists of an approximately two-acre parcel that is currently owned by Signal Hill Petroleum (SHP) and is used for oil extraction with eight wells onsite, consisting of four abandoned wells, two idle wells, and two active wells (Figure 2). The City plans to support redevelopment of this property that will include an apartment building and separate recreational building.

Prior to redevelopment, we understand that SHP has plans to remove relic infrastructure and remediate the parcel to standards that support residential land use. In addition, development of the Site will require engineering controls (e.g., methane mitigation system) to be installed sub-slab of all proposed buildings to mitigate risks and hazards due to the potential for volatile organic compounds (VOCs) and methane vapor intrusion from the subsurface.

Because two of the wells on the Site will remain active for oil and gas production following development, the City commissioned the *Work Plan for Human Health Risk Assessment* (Catalyst 2024) to evaluate the potential human health risks posed by outdoor air to future residents and recreational users of the Site. The objective was to collect site-specific outdoor air data to support an assessment of potential human health risks posed by VOCs in outdoor air.

The scope of work involved: 1) reviewing existing air quality data documented in the Multiple Air Toxics Exposure Study V (MATES V) for the Los Angeles basin as provided by the South Coast Air Quality Management District (SCAQMD) ; 2) collecting air quality data to characterize outdoor air quality on and adjacent to the Site; and 3) analyzing the collected data to prepare a site-specific assessment of potential human health risks. The investigation was conducted in accordance with the most current methods recommended by the California Department of Toxic Substances Control (DTSC), California's Office of Environmental Health Hazard Assessment (OEHHA), and the U.S. Environmental Protection Agency (USEPA). This report documents the methods and results of the study and assessment of potential human health risks.

Figure 1. Site Location Map (Source: Mearns Consulting, LLC 2021)

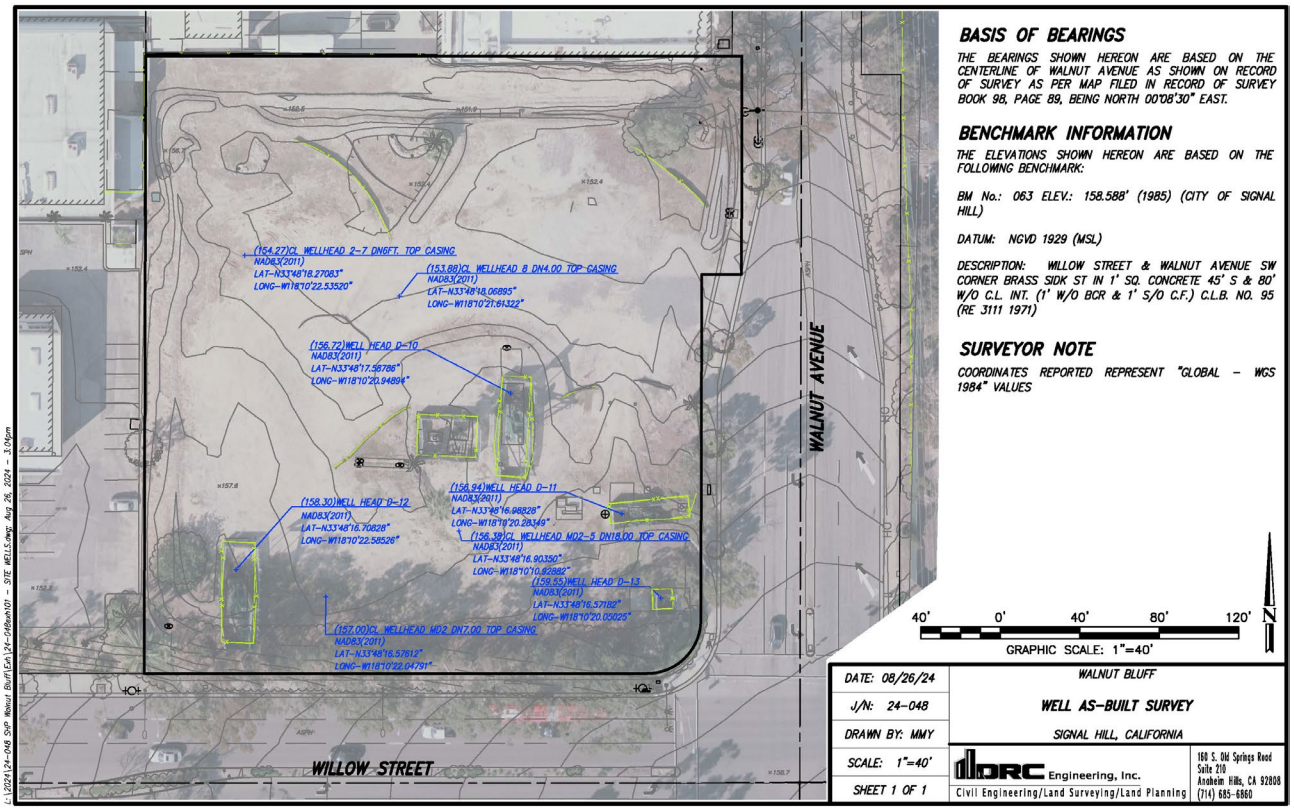


Figure 2. Site Map with Oil and Gas Well Locations (Source: SHP, 2021)

SECTION 2

Study Design Framework

The *Work Plan for Human Health Risk Assessment*, consisting of an air quality monitoring and sampling plan, was developed to characterize air quality at the Site and its vicinity and to generate the data required to support an assessment of potential human health risks. More specifically, the study was designed to generate data to enable evaluations of:

- Air quality impacts from VOCs (if measurable) associated with each of the onsite active and idle wells
- Concentrations of VOCs in outdoor air at the Site
- Effects (if any) of wind direction, temperature, and barometric pressure on outdoor air quality
- Cumulative cancer risk and chronic and acute noncancer hazards posed by potential exposure to outdoor air at the Site.

The Study Design was based on these two key assumptions:

- Onsite active, idle, and previously abandoned oil and gas wells are potential sources of measurable concentrations of VOCs to outdoor air
- Outdoor air in the vicinity of the Site, including air upwind from the Site and in the Los Angeles region contain measurable concentrations of VOCs.

Catalyst also required the following support during the implementation of the Study:

- Routine SHP operations would continue without regard nor alteration due to the study
- Security would be installed to ensure that all monitoring equipment would be protected and not subjected to tampering.
  - We note that security consisted of temporary chain-link fencing installed around the entire Site and 24-hour video surveillance. No trespassing nor tampering of the monitoring equipment was observed.

SECTION 3

Field Methods

The study consisted of real-time monitoring of outdoor air quality, collection of outdoor air samples, and measurement of meteorological parameters. All data were collected during October 1 through October 15, 2024 at the locations shown on Figures 3 and 4. This section describes the means and methods employed to collect these data.

3.1 Monitoring and Sampling Locations

Monitoring and sampling were performed over a 14-day period at 16 onsite and 3 offsite locations. At each location (onsite, offsite, and meteorological), the sampling and monitoring devices were deployed vertically within the breathing zone, approximately 3 to 5 feet above ground surface. As discussed in Section 3.1.3, the dominant wind direction in September 2023 and September 2024 was primarily from the southwest/west-southwest with a subdominant direction from the west-northwest; this wind direction informed some of the location-selection rationale provided in Table 1. Table 1 below provides the rationale for each sampling and monitoring location.

Table 1. Sampling Locations

Site ID	Onsite/Offsite	Location Description and Rationale
WB1	Onsite	Located upwind and crosswind from one of the wells (API #03708973) that will remain active
WB2	Onsite	Located at one of the wells that will remain active (API #03708973)
WB3	Onsite	Located upwind and crosswind of one of the wells (API #03708973) that will remain active and along the western property margin
WB4	Onsite	Located upwind and crosswind on the property, and just west of the proposed residential building in the northern portion of the Site
WB5	Onsite	Located within the footprint of the proposed residential building
WB6	Onsite	Located in the center of the proposed residential building in the northern portion of the Site, and along the upwind margin of the property for wind towards the southeast
WB7	Onsite	Located within the footprint of the proposed residential building

Site ID	Onsite/Offsite	Location Description and Rationale
WB8	Onsite	Located along the east side of the proposed residential building in the northern portion of the Site, and along the downwind margin of the property for wind towards the southeast
WB9	Onsite	Located at the middle eastern side of the property and largely along the downwind side of the property
WB10	Onsite	Located at one of the wells that will remain active in the center of the Site (API #03708971)
WB11	Onsite	Located at an idle well that is proposed for abandonment (API #03708975)
WB12	Onsite	Located at an idle well that is proposed for abandonment (API #03708972)
WB13	Onsite	Located in the center of the proposed recreational building in the southern portion of the Site
WB14	Onsite	Located at the western side of the proposed recreational building
WB15	Onsite	Weather station in the southwest quadrant of the Site
WB16	Onsite	Weather station in the northeast quadrant of the Site
WB17	Offsite	Located offsite, upwind and/or crosswind at a nearby SHP facility
WB18	Offsite	Located offsite, upwind and/or crosswind near the 405 freeway at SHP Drill Site #1 located at 805 East Spring Street
WB19	Offsite	Located offsite, upwind and/or crosswind at the SHP Town Center Northwest site

3.1.1 Onsite Air Quality Monitoring and Sampling Locations

Air quality monitoring and sampling was performed at 14 onsite sampling locations (WB1 through WB14) and weather monitoring was performed at 2 onsite locations (WB15, WB16), as shown in Figure 3. The onsite sampling locations were selected to characterize outdoor air quality in the vicinity of:

- two active wells
- two idle wells
- area within the footprint of the proposed residential apartment building
- area within the footprint of the proposed recreational building
- along the upwind, crosswind and downwind margins of the property
- offsite areas upwind, crosswind, and downwind of the property.

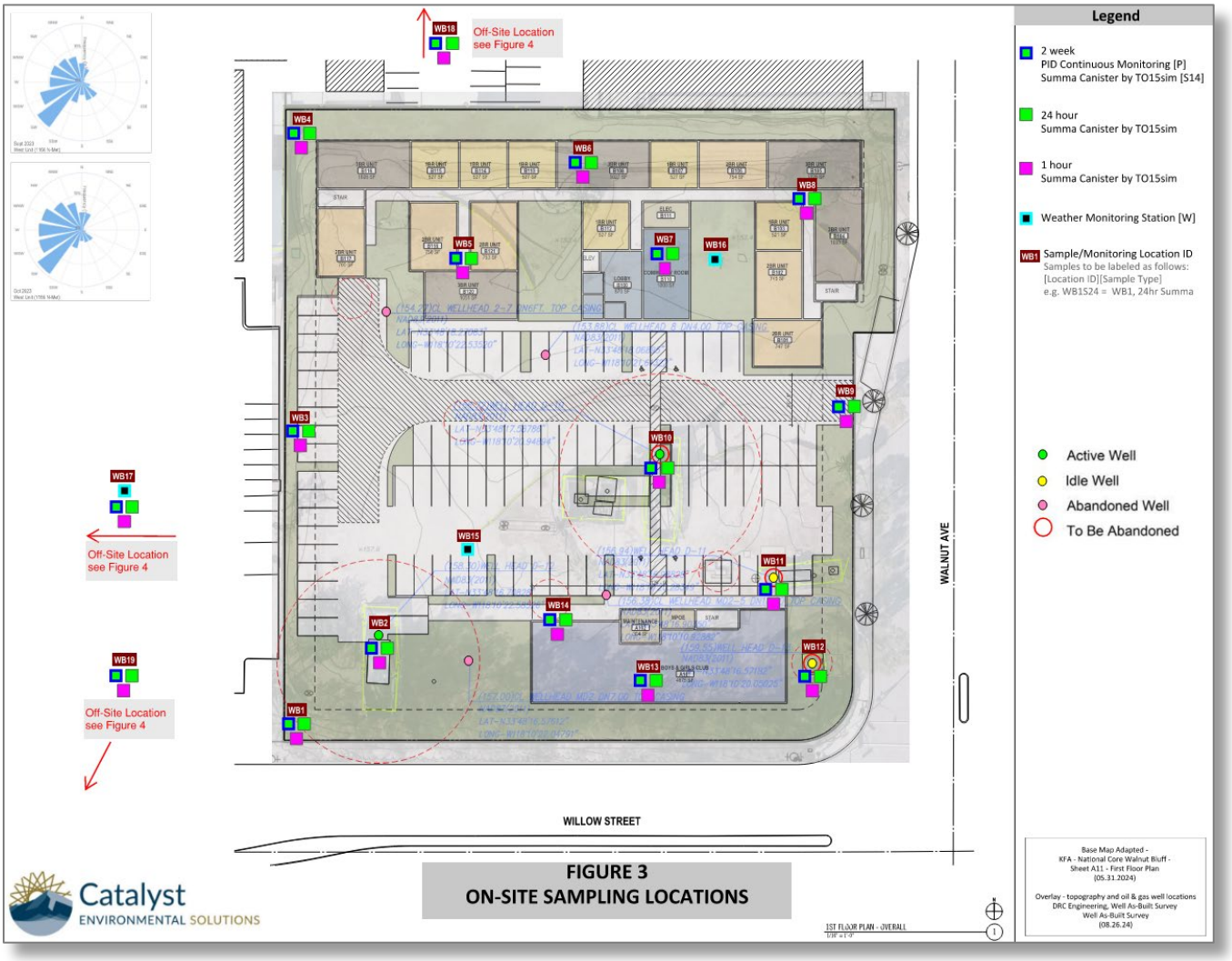


Figure 3. Onsite Sampling Plan

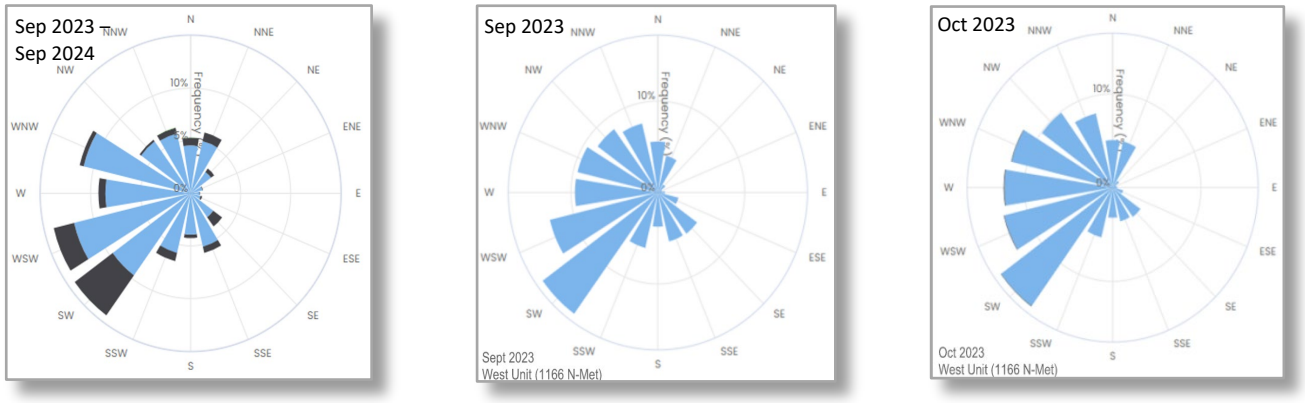
3.1.2 Offsite Air Quality Monitoring and Sampling Locations

Air quality monitoring and sampling were performed at three offsite study locations (WB17 through WB19) as shown in Figure 4. The three offsite sampling locations were selected to characterize outdoor air quality at similar SHP facilities upwind or crosswind from the Site. SHP provided access to the three offsite locations.

Figure 4. Offsite Sampling Plan

3.1.3 2023 and 2024 Wind Directions

Wind direction and speed are important phenomena to consider when evaluating air quality in an outdoor environment. The leftmost wind rose below is for the period between September 12, 2023 and September 11, 2024 measured at the SHP facility located at 1215 E 29th Street in the City of Signal Hill, which is approximately 0.35-miles northwest of the Site (provided by SHP). This wind rose indicates that the dominant wind direction at that time was primarily from the southwest/west-southwest with a subdominant direction from the west-northwest (see adjacent figure). Similarly, SHP provided the center and rightmost wind roses at other nearby facilities in the City, which show similar dominant and sub-dominant wind directions in the months of September 2023 and October 2023. It was assumed that the dominant and subdominant wind directions at the Site were similar to these wind roses and would remain similar during the time of the study.



3.1.4 Weather Monitoring Locations

Monitoring of meteorological conditions was performed at three locations. Two locations (WB15, WB16) were located onsite, and one location (WB17) was located offsite. At each location, a Lufft WS600 meteorological monitoring station was installed and maintained to measure and record every 15 minutes throughout the study period: wind direction, wind speed, air temperature, and absolute air pressure (aka, barometric pressure). Refer to Section 4.1 for the measurements of actual wind direction and wind speed during this study.

3.2 Air Quality Monitoring and Sampling

This task involved the collection of outdoor air quality data to characterize both onsite and offsite conditions. Over a period of 14 continuous days, the monitoring and sampling program involved the following collection of continuous and concurrent data as well as time-integrated air quality samples at each of the locations shown on Figures 3 and 4, as follows:

- Continuous measurements of total concentrations of VOCs using a photo-ionization detector meter (PID) for 14 days
- 14-day time integrated air samples
- 24-hour time integrated air samples
- 1-hour time integrated air samples
- Continuous measurements of meteorological parameters.

Field data sheets are provided in Appendix A.

3.2.1 Continuous Photo-Ionization Detection Monitoring – 14-Days

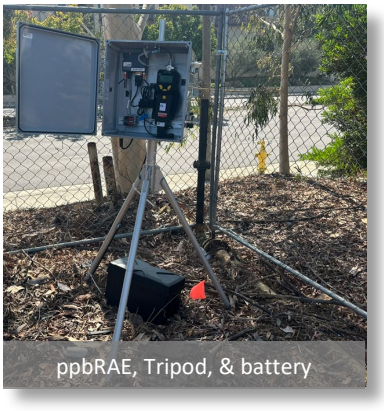
Air quality was monitored continuously at the 14 onsite sample locations and the 3 offsite sample locations using PIDs configured to measure in parts per billion by volume (ppbv, or ppb) and record the total concentration of VOCs every 15-seconds. The data were evaluated to identify:

- Changes in VOC concentrations over time at each monitoring location
- Correlations (if any) between VOC concentrations, time, wind speed and direction, and barometric pressure
- Overall range of total VOC concentrations in air
- Diurnal variation in the concentration of total VOCs at each of the monitoring locations. The diurnal distribution of relatively higher and lower concentrations was used to identify the optimal time interval(s) during a 24-hour period to collect 1-hour air samples for laboratory analysis that will likely yield the highest daily VOC concentrations in outdoor air, as described below.

The PID meters were supplied by Field Environmental Instruments (FEI), located in Signal Hill. Prior to deployment, the PIDs were calibrated by FEI following the manufacturer's instructions. Calibration certificates are provided in Appendix H. The PIDs deployed at the Site were the ppbRAE 3000 or multiRAE Pro manufactured by Rae Systems in San Jose, California. All PIDs were secured onto a rigid tripod, measured VOCs at 4 to 5 feet above grade, and were powered by a dedicated battery.


ppbRAE


ppbRAE & Tripod


ppbRAE, Tripod, & battery

3.2.2 Time-Integrated Sampling – 14-Days

Six-liter Summa canisters were deployed on October 1, 2024 at each location also containing a PID to collect 14-day time-integrated samples over the duration of the study. Enthalpy Analytical in Orange, California, a State of California certified laboratory, provided Summa canisters and 14-day flow controllers, and analyzed the Summa canisters for VOCs using USEPA Method TO-15sim. Charts 1 through 17 depict the PID measurements and the 14-day sampling interval at all sampling locations.

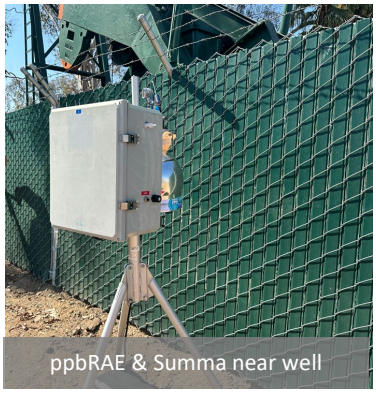
Each 6-liter Summa sample canister was fitted with a vacuum gauge and a flow controller to collect the sample over an approximately 14-day period. Each canister, flow controller, and gauge was individually certified clean by the analytical laboratory. After the canisters were set in the breathing zone in their respective locations, the initial vacuum reading was recorded on field forms. Canisters were confirmed to be at a minimum vacuum of 27-inches of mercury prior to use. After 14 days, the valve on the Summa canister was closed and the final vacuum was

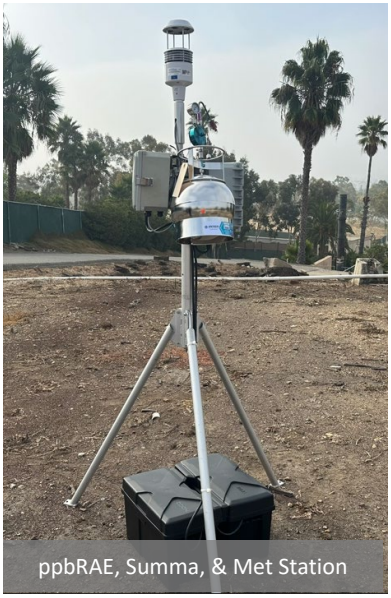
measured and recorded. Each canister was labeled appropriately, and a chain-of-custody manifest was completed onsite to accompany the samples to the lab.

The following items were recorded for each sample:

- Sample location (including figure and photographs)
- Canister and flow regulator identification numbers
- Initial vacuum
- Time and date that sample collection began and ended
- Final vacuum.

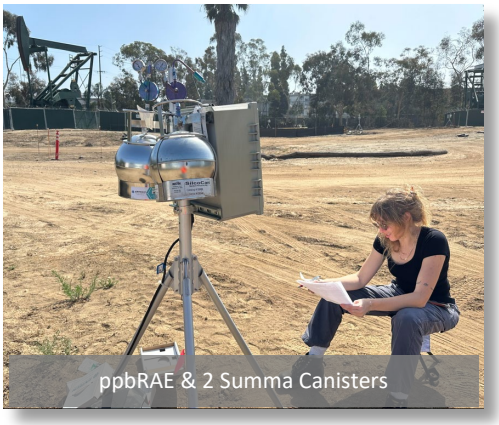

ppbRAE & Summa Canister


ppbRAE & Summa near well


ppbRAE, Summa, & Met Station

3.2.3 Time-Integrated Sampling – 1-Hour

The PID measurements recorded during the first six days at each monitoring location were evaluated to identify the daylight hour when the highest PID measurements were typically recorded. For safety reasons, collection of the 1-hour air sample was limited to daylight hours. Table 3 summarizes the 1-hour sampling timeframe selected for each location. Charts 1 through 17 depict the PID measurements and the 1-hour sampling interval at all sampling locations.


ppbRAE & 2 Summa Canisters

The six-liter summa canisters were deployed on October 9, 2024 in a similar manner to the 14-day samples. Pace Analytical, a State of California certified laboratory, supplied the Summa canisters and flow controllers, and analyzed the air samples for VOCs by USEPA Method TO-15sim.

3.2.4 Time-Integrated Sampling – 24-Hours

The PID measurements recorded during the first six days at each monitoring location were evaluated to identify the day of the week that corresponded with relatively higher measurements of VOCs compared to other days. However, the PID data yielded no indication that any particular day of the week corresponded with relatively higher concentrations than any other day. Therefore, the 6-liter Summa canisters for collecting a 24-hour air sample were deployed at each sampling location on October 10, 2024, the day following the collection of the 1-

hour air sample. Charts 1 through 17 depict the PID measurements and the 24-hour sampling intervals at all sampling locations.

The six-liter Summa canisters were deployed on October 10, 2024 in a similar manner to the 14-day samples. Pace Analytical, a State of California certified laboratory, supplied the Summa canisters and flow controllers, and analyzed the air samples for VOCs by USEPA Method TO-15sim.

3.2.5 Deviations From Work Plan

Location WB07 was sampled for 1 hour. However, the summa canister arrived at the laboratory fully evacuated and could not be analyzed. Because the study generated data from 13 other locations on the Site, the lack of a 1-hour sample at this location is considered to be an insignificant deviation and does not materially affect the results and conclusions presented herein.

All offsite outdoor air sampling locations were adjusted to locations shown in Figure 4 as follows:

- WB17 was changed because the County Assessor's office did not provide access for this study.
- WB18 was changed to avoid conflict with oil and gas well infrastructure.
- WB19 was changed to avoid conflict with oil and gas well infrastructure.

The above changes are slight and considered immaterial to the overall findings in this study.

Following publication of the Work Plan, feedback from Dr. Susan Mearns (City consultant) and the City as well as discussions with SHP (property owner) and National Core (potential buyer) resulted in modifying the scope of work to remove overt monitoring and sampling at the abandoned wells. Instead, the study evaluated outdoor air quality throughout the Site, which includes the area containing the previously abandoned wells, but did not overtly measure outdoor air quality at each of the abandoned well locations. Because the study generated multiple samples from 14 locations across the Site, and because samples purposefully collected adjacent to active and idle wells did not yield concentrations significantly different from samples collected further away from these wells (as discussed herein below), the lack of samples deployed precisely above abandoned well locations is considered to not materially affect the results and conclusions presented herein.

3.3 Personnel and Procedures

All environmental work was performed by qualified Catalyst environmental personnel who supervised the field activities and oversaw all phases of the work including managing subcontractors. All field procedures (e.g., permitting, sampling protocol, chain-of-custody, preparation of a Health and Safety Plan, etc.) followed City of Signal Hill, Los Angeles County, and State of California guidelines, as well as Catalyst's Standard Operating Procedures.

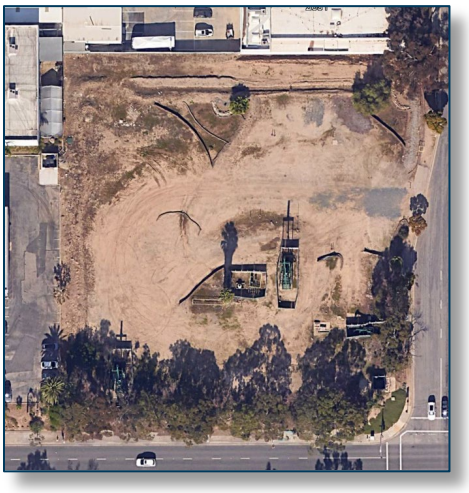
3.4 Site Safety

A site-specific Health, Safety, and Environmental Plan (HSE) was developed in accordance with the California Occupational Safety and Health Administration (Cal-OSHA) guidelines for Hazardous Waste Operations Standards (Title 29 CFR, Section 1910.120) and California Code of Regulations (Title 8 CCR, Section 5192). The HSE Plan provided field personnel with an understanding of the potential chemical and physical hazards, protection of any offsite receptors, procedures for entering the Site, health and safety procedures, and emergency response to

hazards should they occur. In addition, the HSE Plan addressed the appropriate level of Personal Protective Equipment (PPE) for onsite workers during activities at the Site. A copy of the HSE was present onsite at all times and kept in an easily accessible location.

3.5 Site Security and Access Control

Because the scope of work involved the use of various air quality monitoring and sampling equipment on a continuous basis, site security measures were implemented to protect the safety of site workers and integrity of the study, prevent unauthorized access to the Site, and reduce risk of equipment damage, theft, and vandalism. The security measures used included: 1) installation of temporary fencing with locking gates around the perimeter of the Site and offsite monitoring locations where no permanent fencing existed; 2) installation of video cameras and remote monitoring; 3) deployment of security lighting; and, 4) where feasible, equipment was set back a minimum of 20 feet from property lines to ensure public safety and the safety of the equipment.



SECTION 4

Monitoring and Sampling Results

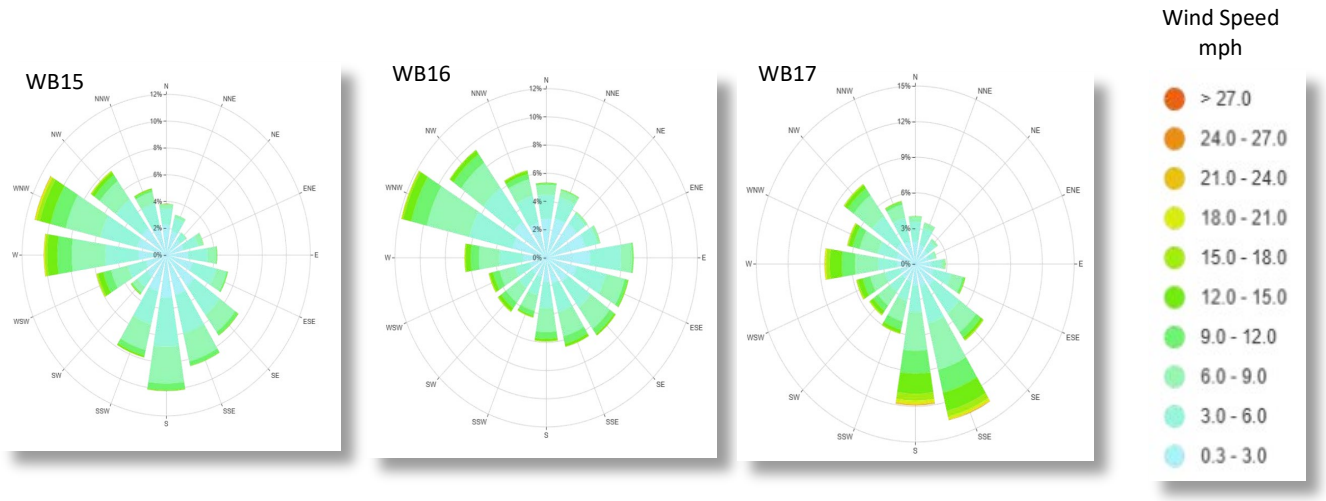
This section presents the data resulting from the monitoring and sampling scope described in Section 3.

4.1 Meteorological Data

Section 3.1.4 presents the wind directions recorded near the Site from September 2023 through September 2024, and in the months of September and October 2023, which showed the dominant wind direction was primarily from the southwest/west-southwest with a subdominant direction from the west. During this October 2024 study, the meteorological stations (WB15, WB16, and WB17) measured and recorded wind direction, temperature, and barometric pressure. Charts 27 through 29 present wind direction and wind speed on a wind rose. Charts 30 to 32 present wind speed, temperature, and barometric pressure. The data show that temperature and barometric pressure fluctuated within the normal and anticipated range for the season and therefore, are interpreted to have not materially affected the representativeness of the results presented herein.

As shown below, the dominant west-northwest wind direction measured at the onsite locations WB15 and WB16 and the dominant south-southeast offsite location WB17 differed from the dominant west-southwest 2023 direction. However, the subdominant wind direction from the west recorded in 2023 matches reasonably well with the onsite dominant wind direction from the west and west-northwest. Charts 30 through 32 present the histograms of the wind speed measured from October 1 through October 15, 2024.

As discussed in detail in Section 5, because the offsite, onsite, and regional concentrations and risks are comparable, the inconsistency between the anticipated and actual wind directions is considered immaterial to the conclusion drawn in this report.

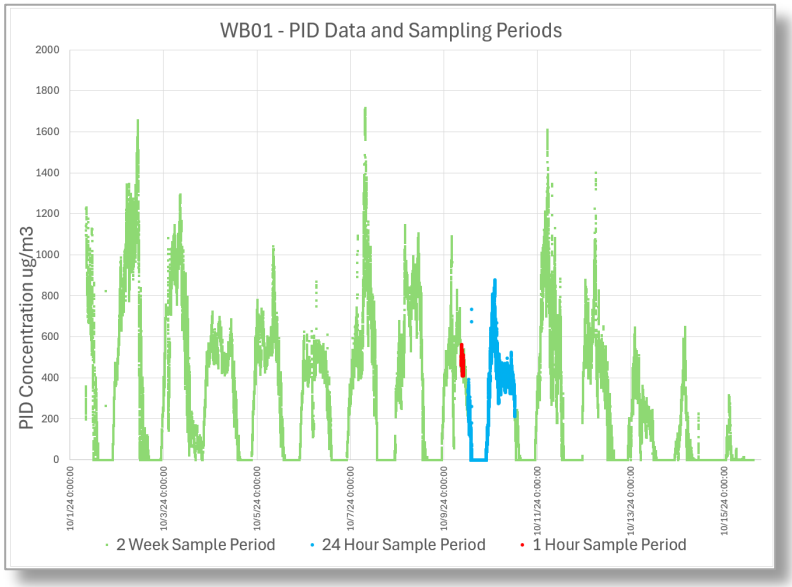


4.2 PID Monitoring

Measurements of total VOC concentrations were recorded every approximately 15 seconds at each of the 14 onsite (WB01 - WB14) and 3 offsite (WB17 - WB19) monitoring stations. These data are presented graphically in two forms utilizing two different X-axes.

4.2.1 PID Measurements versus Calendar Day

Charts 1 through 17 present the PID measurements with the x-axis structured chronologically by day. The y-axis for the charts for all locations was selected to display the data that represents measurements of air quality.



An example chart, with PID measurements at WB01, is provided here. The charts are color coded to show the following:

- Green depicts the entire duration of the 14-day time integrated air sample
- Blue depicts the entire duration of the 24-hour air sample
- Red depicts the entire duration of the 1-hour air sample.

It is noted that because bump test events were performed during the monitoring period, the data collected at each location also include concentrations considerably higher than those actually present in outdoor air . The bump tests involved briefly exposing the PID sensor to 10ppm of isobutylene gas to evaluate if the PID reads the concentration as expected. An appropriate PID response confirms the detector reliably measures VOCs. Bump tests were performed by FEI and field notes were not recorded. If the y-axis was adjusted to include the bump

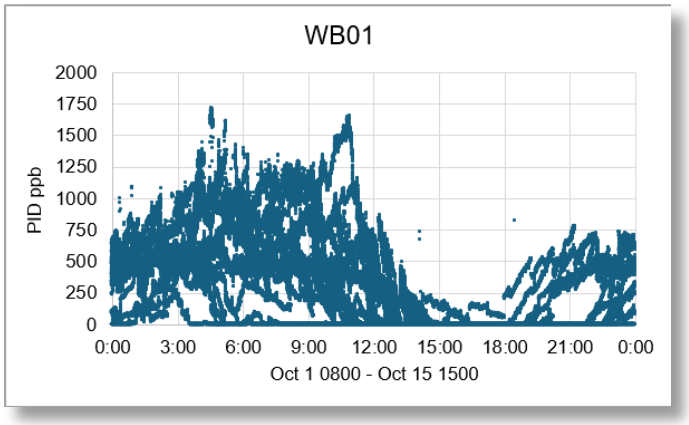
test events, then the diurnal patterns would be too subtle to observe. It is also noted that to avoid graphically calling unnecessary attention to the bump test events, the PID data are plotted as points, rather than lines connecting each data point.

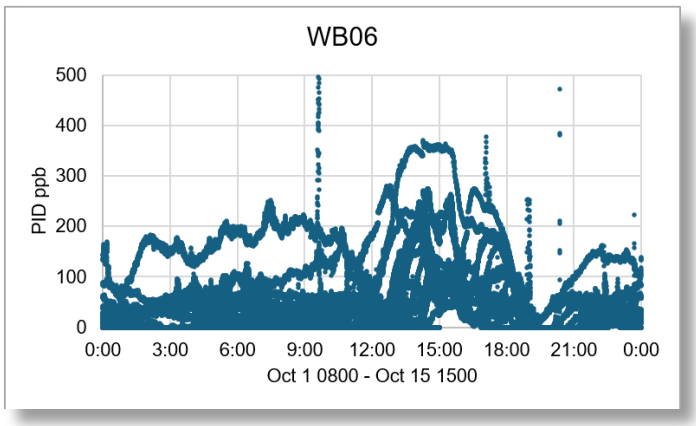
4.2.2 PID Measurements versus 24-hour Day

Most of the locations yielded PID data that show diurnal variations over time. It is postulated that these diurnal fluctuations are associated with both anthropogenic factors, such as vehicle traffic patterns, and meteorological patterns, such as changes in wind direction. The potential significance of the relatively higher PID measurement revealed within the diurnal fluctuations was evaluated via the collection of 1-hour outdoor air samples as discussed in Section 4.3.3. Understanding the causes of these diurnal patterns is beyond the scope of this study and the causes are considered to be immaterial to the risk assessment objectives of this study.

Nonetheless, in an attempt to gain some further insight into these diurnal patterns, the same PID data were plotted with the X-axis structured as a 24-hour day. Chart 18 presents these PID measurements with the charts ordered sequentially by monitoring location. Chart 19 is organized to show locations with similar diurnal patterns. The y-axis for the charts for all locations was selected to display the data that represents measurements of air quality, excluding bump test events.

For example, PID measurements at WB01 show a diurnal pattern with low total VOC concentrations routinely recorded by the PID between 2pm and 6pm. Other locations with a similar pattern are WB07, WB13, WB14, and WB19.



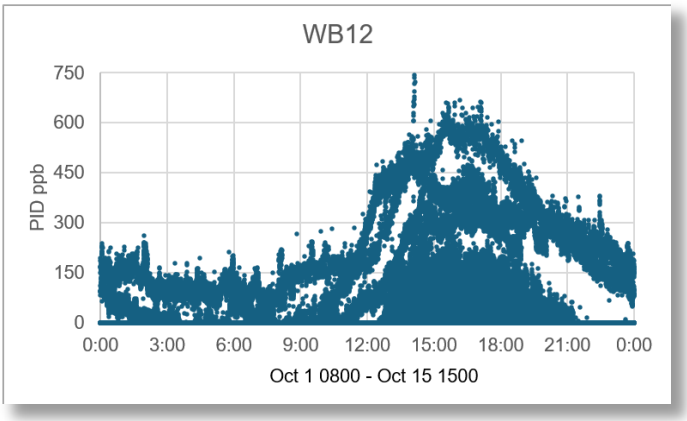


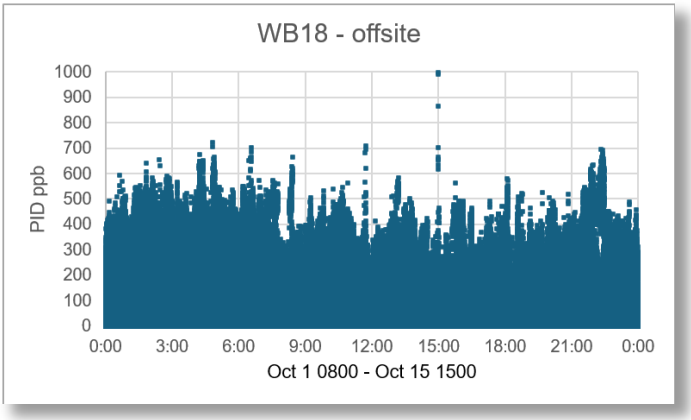
A different pattern emerges with PID measurements at WB06, which shows a diurnal pattern with slightly lower concentrations routinely recorded around 12pm, slightly higher concentrations recorded around 2pm to 6pm, followed by a rapid decline at about 7pm. Other locations with a similar pattern are WB03, WB05, WB08, WB09, and WB10.

PID measurements at WB12 show a diurnal pattern with marked rise in total VOC concentrations routinely recorded in the afternoon. One other location with this pattern is the offsite location WB17.

There are also locations that yielded PID concentrations with either no discernable pattern or a pattern that was not replicated at other monitoring locations. For example, the WB18 location.

It is also noted that PID data recorded at WB04 produced total VOC concentrations considerably lower than all other locations. Similarly, PID data recorded at WB11 also produced mainly very low total VOC concentrations. Repeated bump tests of the PID at these locations were performed and the ppbRAE demonstrated proper function. The relatively unusual PID data recorded at these locations cannot be explained. Regardless, as shown below, the air quality samples collected at WB04 and WB11 reveal total VOC concentrations similar in magnitude to those collected throughout the study.





4.3 Air Quality Samples

4.3.1 Screening Criteria

The analytical data tables compare the measured concentrations with the following chronic screening criteria:

- DTSC (2022a) HHRA Note 3 residential air screening levels for carcinogenic risks (SLc)
- DTSC (2022a) HHRA Note 3 residential air screening levels for noncarcinogenic hazard (SLnc)
- USEPA (2024) Regional Screening Levels for residential air carcinogenic risk (RSLc)
- USEPA (2024) Regional Screening Levels for residential air noncarcinogenic hazard (RSLnc).

It is important to note that not all detected VOCs have DTSC SLs, not all detected VOCs have USEPA RSLs, and that some detected VOCs have neither or both.

4.3.2 14-Day Air Samples

Laboratory analytical results for these samples are summarized in Table 2. Laboratory analytical reports are presented in Appendix E. These data are used in Section 5 to evaluate human health chronic cancer risks and noncancer hazards. The following summarizes those VOCs that exceed chronic screening levels.

- Petroleum-related VOCs
  - Benzene ranged narrowly at the onsite and offsite locations from 0.72 µg/m^3 to 0.99 µg/m^3, and as discussed below there is an outlier concentration of 3.2 µg/m^3 at WB05. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.

  - Naphthalene ranged onsite from below the reporting limit of 0.052 µg/m^3 to 0.14 µg/m^3, and ranged offsite from below the reporting limit of 0.058 µg/m^3 to 0.073 µg/m^3. Naphthalene exceeded the RSLc at three locations, WB10, WB11, and WB13.

- Nonpetroleum-related VOCs
  - Carbon tetrachloride ranged narrowly at the onsite and offsite locations from 0.45 µg/m^3 to 0.47 µg/m^3. There are six onsite locations and one offsite location that equaled the SLc and RSLc of 0.47 µg/m^3.
  - Chloroform ranged narrowly at the onsite and offsite locations from 0.13 µg/m^3 to 0.17 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

4.3.3 1-Hour Air Samples

Laboratory analytical results for these samples are summarized in Table 3. Laboratory analytical reports are presented in Appendix G. These data are used in Section 5 to evaluate human health acute noncancer hazards.

The following summarizes those VOCs that exceed chronic screening levels. It is important to note that because chronic screening levels are considerably lower than acute screening levels, the comparison of chronic screening levels to the 1-hour VOC concentrations provides a very conservative list of VOCs that might pose a risk and hazard. Acute noncancer hazards are appropriately assessed in Section 5.

- Petroleum-related VOCs
  - Benzene ranged narrowly at the onsite and offsite locations from 0.88 µg/m^3 to 1.9 µg/m^3. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.
  - Naphthalene narrowly ranged at the onsite and offsite locations from 0.13 µg/m^3 to 0.38 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

- Nonpetroleum-related VOCs
  - Carbon tetrachloride ranged narrowly at the onsite and offsite locations from 0.49 µg/m^3 to 0.51 µg/m3. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.
  - Chloroform ranged narrowly at the onsite and offsite locations from 0.19 µg/m^3 to 0.27 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.
  - 1,2 Dichloroethane exceeded the RSLc at three onsite locations and one offsite location. All exceedances were reported at 0.11 µg/m^3.

4.3.4 24-Hour Air Samples

Laboratory analytical results for these samples are summarized in Table 4. Laboratory analytical reports are presented in Appendix F. These data are not used in Section 5 to evaluate chronic human health risks because the 14-day samples better represent the average concentration to which a receptor might be exposed. But, because longer term time-integrated 14-day samples run a greater risk of disturbance (e.g., physical, meteorological) to sample integrity, these 24-hour samples are used herein to evaluate if the 14-day samples reasonably represent site conditions over the longer term. The following summarizes those VOCs that exceed chronic screening levels.

- Petroleum-related VOCs
  - Benzene ranged narrowly at the onsite and offsite locations from 0.68 µg/m^3 to 1.1 µg/m^3. The high concentration of 1.1 µg/m^3 was reported at the onsite location WB10 and the offsite location WB19. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.

  - Naphthalene narrowly ranged at the onsite and offsite locations from 0.13 µg/m^3 to 0.43 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

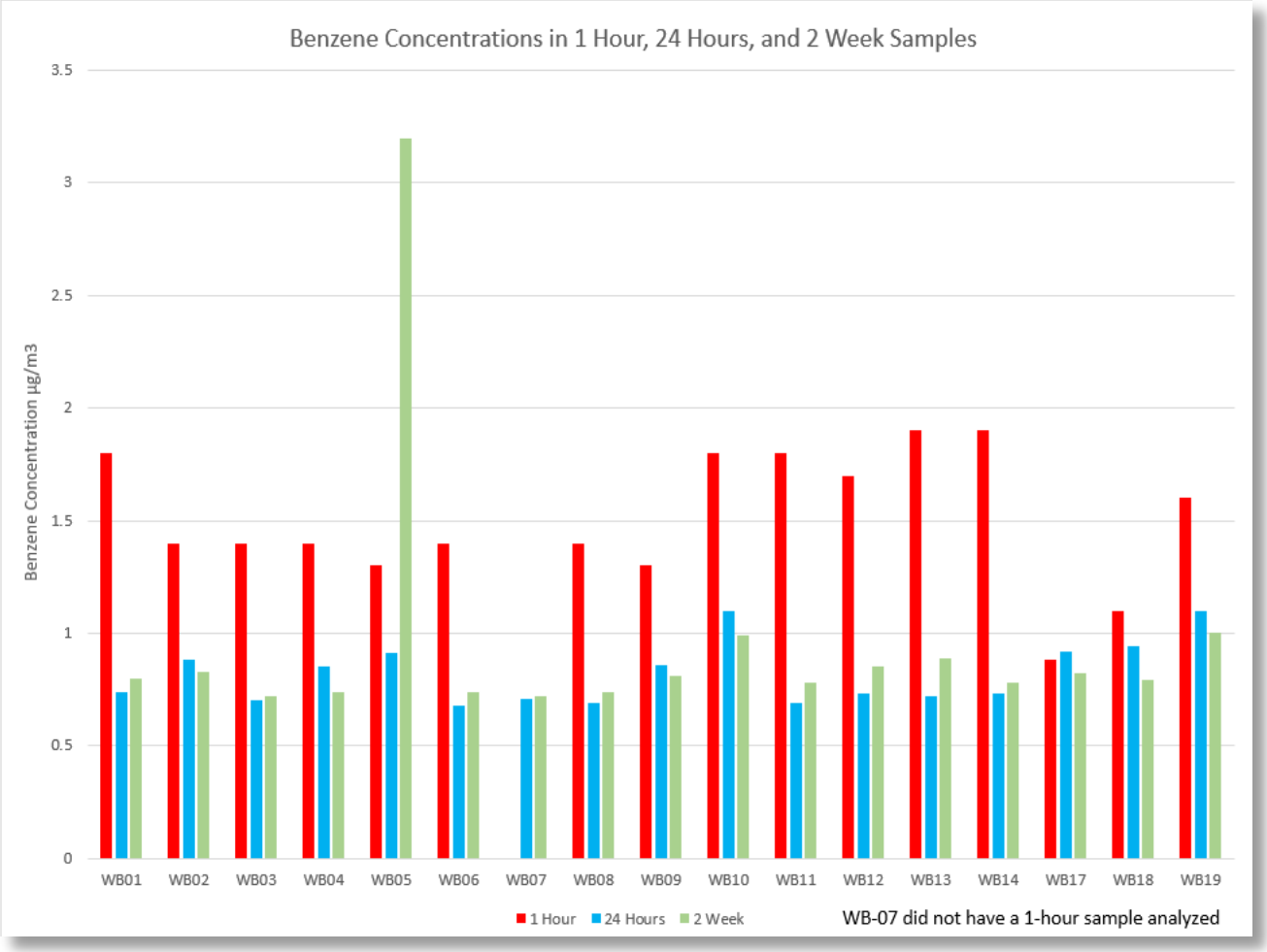
- Nonpetroleum-related VOCs
  - Carbon tetrachloride ranged narrowly at the onsite and offsite locations from 0.46 µg/m^3 to 0.50 µg/m^3. Concentrations at all but one onsite location and all offsite locations exceeded both the SLc and RSLc of 0.47 µg/m^3.
  - Chloroform ranged narrowly at the onsite and offsite locations from 0.14 µg/m^3 to 0.17 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

Overall, the 1-day samples yielded concentrations reasonably comparable to the 14-day sample concentrations suggests that concentrations are relatively consistent each day throughout this 14 day monitoring period.

4.3.5 Comparison Of 14-Day, 24-Hour, and 1-Hour Samples

Charts 20 through 24 compare the concentrations of petroleum-related VOCs measured in the 14-day, 24-hour, and 1-hour samples. Chart 25 compares the concentrations of 1,2,4-trimenthylbenzene and 1,3,5-trimethylbenzene in 14-day samples, these two VOCs were not analyzed in the 1-hour and 24-hour samples.

In nearly all cases, the highest concentrations were detected in the 1-hour samples and the lowest concentrations were measured in the 14-day samples. This distribution validates the overall intent of the sampling strategy, which was to capture the long-term average concentration in the 14-day samples and the likely higher concentrations (based on PID data) in the 1-hour samples. It is noted that, again in most cases, the concentrations measured in the 24-hour and 14-day samples are quite comparable. This comparison indicates that daily average concentrations do not vary significantly over longer, in this case 2-week, time horizons. An example comparison chart is provided below for benzene, which includes the outlier concentration at WB05 as discussed below in Section 4.4.



4.3.6 Data Quality Evaluation

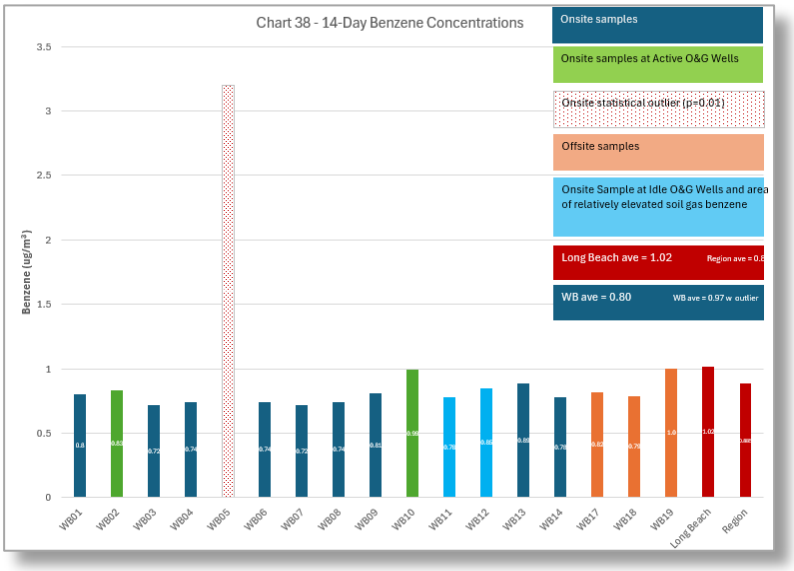
The laboratory analytical reports and field sampling sheets were evaluated to identify potential issues that could impact the quality and/or representativeness of the samples and data reported by the laboratory. The Laboratory Data Review Checklist for the Air Samples was completed and the analytical data returned by Pace Analytical and Enthalpy Analytical, are provided in Appendix B. No significant quality control issues were identified. Therefore, the data are considered reliable and reasonably representative of Site conditions.

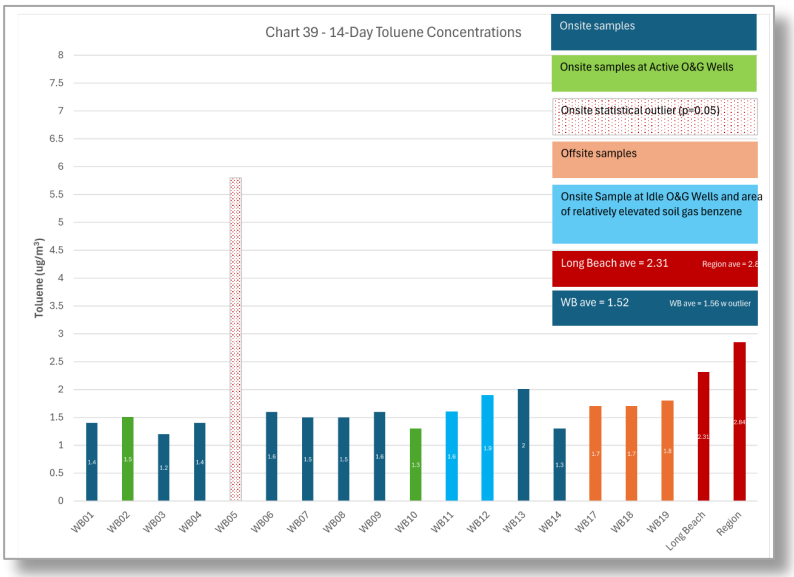
4.4 Statistical Outliers

Two statistical outliers were identified in the 14-day sample dataset, one for benzene and one for toluene, both at WB05. Onsite outdoor air benzene concentrations in the 14-day samples ranged from 0.72 to 3.2 µg/m^3. Dixon's Outlier Test identifies the benzene concentration of 3.2 µg/m^3 in the WB05 sample as a statistically significant outlier at p=0.01 (Appendix C). Similarly, onsite outdoor air toluene concentrations in the 14-day samples ranged from 1.2 to 5.8 µg/m^3. Dixon's Outlier Test identifies toluene concentration of 5.8 µg/m^3 in the WB05 sample as a statistically significant outlier based at p=0.01 (Appendix C).

A “p” value of 0.01 means that the test has a 99% chance that the results were not due to chance and the outlier designation is statistically significant. Furthermore, it is reasonable to conclude that benzene and toluene in the 14-day sample at WB05 are unlikely to be representative of outdoor air quality at that location because:

- 1-hour samples collected when the PID revealed relatively higher concentrations of VOCs during the day did not contain relatively higher concentrations of benzene nor toluene compared to other 1-hour samples,
- WB05 is not located adjacent to an oil well, and because samples located adjacent to active and idle wells did not yield relatively higher concentrations of benzene and toluene,
- Concentrations at locations that are crosswind, upwind, and downwind (WB04, WB06, WB03, WB10, WB07) to WB05 show no corresponding effects indicating the absence of any similarly elevated concentrations coming onsite towards WB05 or elevated concentrations downwind from WB05, it is reasonable to conclude that benzene and toluene in the 14-day sample at WB05 are unlikely to be representative of outdoor air quality at that locationWB05.





Therefore, the benzene and toluene concentrations in the 14-day sample at WB05 are not utilized herein to evaluate chronic risks posed by outdoor air at the Site. Exclusion of the outliers in the calculation of risks is consistent with USEPA 2002 and USEPA 2000.

Excluding the outlier, onsite outdoor air benzene concentrations ranged from 0.72 to 0.99 µg/m^3. This rather tight range is slightly less than the offsite outdoor air benzene concentrations, which ranged from 0.79 to 1.0 µg/m^3. Excluding the toluene outlier, onsite outdoor air toluene concentrations ranged from 1.2 to 2 µg/m^3. This rather tight range is slightly higher than the offsite outdoor air toluene concentrations, which ranged from 1.7 to 1.8 µg/m^3. As discussed further below, this range in concentrations is comparable to those reported in MATES V.

A graphic depiction of the WB05 benzene and toluene outlier are shown above. Nonetheless, in order to further evaluate the benzene and toluene outliers at WB05, a second round of 14-day sampling occurred in December 2024 at 4 sampling locations as described below.

4.4.1 Field Methods for Outlier Evaluation in December 2024

From December 2 to December 16, 2024, six-liter Summa canisters were utilized at 4 locations (WB02, WB03, WB05, and WB10) to collect 14-day time-integrated samples. Enthalpy Analytical in Orange, California, a State of California certified laboratory, provided Summa canisters and 14-day flow controllers, and analyzed the Summa canisters for VOCs using USEPA Method TO-15sim. In addition, monitoring of meteorological conditions was performed at WB16 with a Lufft WS600 meteorological monitoring station that was set to record the following every 15 minutes throughout the study period: wind direction, wind speed, air temperature, and absolute air pressure (aka, barometric pressure).

Each 6-liter Summa sample canister was fitted with a vacuum gauge and a flow controller to collect the sample over an approximately 14-day period. Each canister, flow controller, and gauge was individually certified clean by the analytical laboratory. After the canisters were set in the breathing zone in their respective locations, the initial vacuum reading was recorded on field forms. Canisters were confirmed to be at a minimum vacuum of 27-inches of mercury prior to use. After 14 days, the valve on the Summa canister was closed and the final vacuum was measured and recorded. Each canister was labeled appropriately, and a chain-of-custody manifest was completed onsite to accompany the samples to the lab.

The following items were recorded for each sample:

- Sample location (including figure and photographs)
- Canister and flow regulator identification numbers
- Initial vacuum
- Time and date that sample collection began and ended
- Final vacuum.

4.4.2 Findings

Charts 43 through 48 compare concentrations from October and December 2024 of benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene. As shown, individual VOC concentrations in December were relatively similar to each other across the four samples including benzene and toluene concentrations. Benzene concentrations ranged from 1.7 to 1.9 µg/m^3 and toluene concentrations ranged from 3.2 to 3.4 µg/m^3.

The overall December concentrations are higher than those measured in October, excluding the outliers benzene and toluene at WB05. These results support the conclusion that the concentrations of benzene and toluene measured at WB05 in October were outliers and not representative of outdoor air quality at the WB05 sampling location. These results also indicate that variability in concentrations month over month exists at the Site.

The windrose from WB16 in December 2024 is provided in Chart 49. The dominant wind direction measured (easterly) differed from the October 2024 direction. Chart 50 presents the histogram of the wind speed measured from December 2 to December 16, 2024.

4.5 Petroleum Hydrocarbon Fingerprint

The primary focus of this study is on petroleum-related VOCs and on chlorinated solvents that reportedly might have been a component of some products used during periodic servicing and maintenance of the onsite oil and gas extraction wells. Nevertheless, all VOCs detected in 1-hour, 24-hour, and 14-day samples and are evaluated herein and in the assessment of potential human health risks.

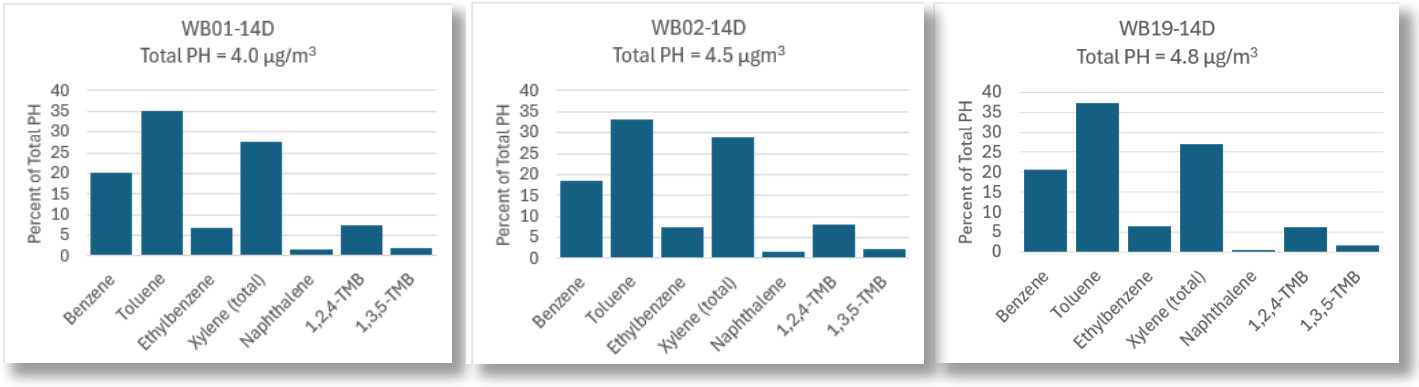
Petroleum related VOCs were routinely measured in all 14-day, 24-hour, and 1-hour air samples: benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX), naphthalene, 1,2,4- trimethylbenzene, and 1,3,5 -trimethylbenzene..

The 14-day samples collected in October 2024 revealed just one onsite location, WB13 at 0.08 µg/m^3, with a measurable concentration of the chlorinated VOC (CVOC) tetrachloroethene (PCE). None of the 24-hour samples contained measurable CVOCs. Four of the fourteen onsite 1-hour samples contained measurable PCE with an average concentration of 0.11 ug/m^3. For comparison, the average PCE concentration in all MATES V regional data is 0.20 µg/m^3 and the average PCE concentration at the MATES V Long Beach location was 0.22 µg/m^3, both above all onsite measurements of PCE.

To evaluate if the distribution of these seven petroleum-related VOCs varied or remained similar regardless of sampling location, the normalized concentrations (as percent of total) of these seven petroleum-related VOCs are plotted and compared. These plots can be considered as fingerprints that graphically depict relative concentrations. Chart 26 displays the fingerprints at all 14 onsite and 3 offsite locations sampled in October 2024, and MATES V all regional data, October 2018 data, and Long Beach October 2018 data. The fingerprints were inspected to identify:

- Obvious differences among the fingerprints in pattern, which would be indicative of source(s) at one or more locations that would alter the fingerprint relative to other locations.
- Obvious similarities among the fingerprints in pattern, which could be indicative of similar conditions at each of the locations, such as being dominated by regional air quality conditions.

The three fingerprints depicted here are from WB01, located at the southwest corner upwind from the Site and near the road, at WB02 adjacent to an active oil production well, and the most distant offsite location WB19 that is in a parking lot and more distant from adjacent active roads. The onsite and offsite fingerprints show similar



patterns. Comparing the MATES fingerprint with the onsite fingerprints shows they are comparable.

SECTION 5

Assessment of Human Health Risks

The objective of this assessment of potential human health risks is to evaluate potential human health risks associated with outdoor air quality and future residential land use of the property, which includes a residential apartment building and a Boys & Girls Club recreational facility. As discussed above, the two oil production wells

that were operating during this study will remain active on the property following development. It is important to note here that this assessment of potential human health risks and the findings and conclusions herein are limited to conditions represented by the samples collected during 2 weeks in October 2024.

Because oil and gas operations are the only known historical and current uses of the Site, it would be reasonable to focus this assessment of potential human health risks on VOCs related to petroleum and servicing of the oil production wells, the latter of which reportedly might include CVOCs. Nonetheless, this assessment of potential human health risks provides a full assessment of all detected VOCs in onsite outdoor air.

As discussed above, outdoor air samples were collected at receptor height from 14 locations across the property in October to provide a reasonable estimate of outdoor air exposures to VOC concentrations. Specifically, continuous 14-day air samples and peak 1-hour air samples were collected for the purpose of assessing potential onsite cancer risks and chronic noncancer hazards and onsite acute noncancer hazards, respectively.

It is noted that the air sampling described herein occurred prior to anticipated remediation of elevated VOC concentrations in soil gas, which have been separately investigated and reported to be present at elevated concentrations in the southeastern portion of the Site (Mearns Consulting, 2021). Consequently, it remains possible that following remediation, the outdoor air quality at the Site might improve.

The assessment of potential human health risks provides upper-bound estimates of individual incremental lifetime cancer risk (ILCR)[1] and noncancer hazard for the theoretical Reasonable Maximum Exposure (RME) for adult and child receptors based on exposures to VOCs in outdoor air. The RME approach utilized herein is consistent with DTSC (2015, 2022a,b) and USEPA (1989) human health risk assessment guidance and is a conservative measure that overestimates potential risks USEPA (1989), thus ensuring the protection of public health, including sensitive subpopulations.

The assessment of potential human health risks was conducted following standardized risk assessment methods consistent with DTSC and USEPA risk assessment guidance, including, but not limited to, the following guidance documents, as applicable:

- USEPA. 1987. The Risk Assessment Guidelines of 1986
- USEPA. 1989. Risk Assessment Guidance for Superfund, Volume I, Health Evaluation Manual, Part A
- USEPA. 2009. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)
- USEPA. 2011. Exposure Factors Handbook: 2011 Edition
- USEPA. 2014. Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors
- DTSC. 2015. Preliminary Endanger Assessment Guidance Manual
- DTSC. 2018. California Toxicity Criteria Rule
- USEPA. 2019. Guidelines for Human Exposure Assessment
- DTSC. 2019. Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities
- DTSC. 2022a. Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs)
- DTSC. 2022b. Human Health Risk Assessment (HHRA) Note Number 4: Guidance for Screening Level Human Health Risk Assessments

[1] Throughout this report “ILCR” and “cancer risk” have the same meaning and are used interchangeably.

- USEPA (2024) Regional Screening Levels (RSLs). November.

Consistent with DTSC and USEPA risk assessment guidelines, the assessment of potential human health risks is organized as follows:

- Exposure Assessment
- Toxicity Assessment
- Risk Characterization.

5.1 Exposure Assessment

Exposure Assessment is the process of quantitatively characterizing exposure concentrations and potential human intake (e.g., dose). Exposure assessment results are subsequently integrated with toxicity information from the Toxicity Assessment (Section 5.2) into the Risk Characterization (Section 5.3) to assess potential health risks.

The Exposure Assessment comprises the following components:

- Selection of chemicals of potential concern (COPCs)
- Data useability evaluation for risk assessment
- Identification of human receptors
- Exposure pathways analysis and development of a Conceptual Site Model (CSM)
- Derivation of Exposure Point Concentrations (EPCs)
- Summarize human exposure factors.

5.1.1 Selection of Chemicals of Potential Concern (COPCs)

For this assessment of potential human health risks, any VOC detected in at least one onsite 14-day outdoor air sample or in at least one onsite 1-hour outdoor air sample was selected as a COPC. The TO-15sim analytical method applied to the 14-day outdoor air samples comprised 48 VOCs, of which 21 VOCs were detected in at least one sample of outdoor air. The TO-15sim analytical method applied to the 1-hour air samples comprised 30 VOCs, of which 16 VOCs were detected in at least one sample.

For the 14-day air samples, in total, 7 petroleum-related VOCs were detected and selected as COPCs, and 14 non-petroleum-related VOCs were detected and selected as COPCs. The 7 petroleum-related VOCs are benzene, toluene, ethylbenzene, total xylenes, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. For the 1-hour air samples, in total, 7 petroleum-related VOCs were detected and selected as COPCs, and 9 non-petroleum-related VOCs were detected and selected as COPCs.

5.1.2 Data Usability Evaluation

The purpose of the data useability evaluation is to ensure that the analytical data collected and used for the assessment of potential human exposure are of sufficient quality with respect to sample size and analytical detection limits. As detailed below, both the number of samples (sample size) and data quality are sufficient for the assessment of potential human health risks.

For the chronic 14-day outdoor air sample data set, a total of 14 onsite samples were collected, which is a sufficient sample size for calculating EPCs (USEPA 2022). All petroleum-related VOCs selected as COPCs were detected in each of the 14 onsite samples with the exception of naphthalene which was detected in 10 of 14 samples. The

maximum reporting limit (RL) for naphthalene of 0.058 µg/m^3 is lower than the lowest DTSC (2022a) residential air screening level (SL) of 0.083 µg/m^3. Therefore, it is concluded that sample size and detection limits for onsite COPCs are sufficient for assessing chronic exposures in the assessment of potential human health risks.

For VOCs not selected as COPCs (e.g., not detected in any sample), RLs were lower than screening levels for all VOCs with the exception of 1,1,2,2-tetrachloroethane, 1,2-dibromoethane, benzyl chloride, bromodichloromethane, and vinyl chloride for which RLs exceeded either DTSC (2022a) SLs or USEPA (2024) RSLs. However, since these VOCs were never detected in any 1-hour, 24-hour, or 14-day onsite outdoor air sample it is reasonable to conclude that these VOCs were not present at detectable concentrations in outdoor air at the Site in October 2024.

For the acute 1-hour outdoor air sample data set, a total of 13 onsite samples were collected, which is a sufficient sample size for calculating EPCs (USEPA 2022). In contrast to the 14 14-day onsite air samples discussed above, there are only 13 1-hour air samples as the WB07 Summa cannister was depressurized when received by the analytical laboratory, and therefore, did not contain an air sample. The cause is unknown. In addition, the analytical laboratory used for the acute 1-hour samples does not report results for 1,2,4-trimethylbenzene or 1,3,5- trimethylbenzene. For VOCs not selected as COPCs (e.g., not detected in any sample), all RLs were lower than available screening levels. The one missing sample and the absence of 1-hour sample results for 1,2,4-trimethylbenzene or 1,3,5-trimethylbenzene are expected to not impact the outcome of the assessment of potential human health risks.

5.1.3 Exposure Pathways Analysis and Development of the Conceptual Site Model (CSM)

The ultimate goal of the Exposure Pathways Analysis is to identify those potential exposure pathways to outdoor air that would be considered complete exposure pathways for the quantitative assessment of potential human health risks based on future land use, identification of future human receptors, identification of sources of contamination and receiving media, chemical fate and transport in receiving media, and identification of exposure points and exposure routes (USEPA 1989).

Based on the planned future land use of the property (residential), the following exposure pathways are anticipated to become present:

- The human receptors expected to be present on the property following future development are residential adults and children as well as adults and children using the planned Boys & Girls Club.
- Sources of potential contamination to outdoor air following development are expected to be the two active and two idle oil and gas wells whereby VOCs may be released to the outdoor air during continuous operation and periodic servicing of these wells. In addition, residual VOCs in subsurface soils (e.g., soil gas) following remediation may also be released to the outdoor air.
- The primary chemical fate and transport process is dispersion within outdoor air of such potential emissions, if any, which would cause concentrations to reduce with increased distance from the point of release.
- Human exposure points for short term acute exposure (i.e. 1 hour) may be any discreet location on the property and would be represented by the maximum detected concentration of each identified COPC.
- Human exposure points for long term chronic exposure may be all accessible locations on the property and would be represented by the 95% upper confidence limit on the mean (95% UCL) concentration of each identified COPC across the Site.

The Exposure Pathways Analysis is summarized in the Conceptual Site Model (CSM) presented in Figure 5.

5.1.4 Exposure Point Concentrations

Consistent with DTSC (2015) and USEPA (1989) risk assessment guidance, EPCs for chronic exposures are estimated as the site-wide 95% UCL 14-day outdoor air concentration for each COPC as measured at all 14 onsite locations. 95% UCLs are estimated herein using USEPA (2022) ProUCL ver. 5.2 software. Exceptions for benzene and toluene are the exclusion of the benzene outlier of 3.2 µg/m^3 and the toluene outlier of 5.8 µg/m^3, both measured at WB05, from the 95% UCL calculations. As discussed in Section 4.4 both outliers are considered to be not representative of Site conditions.

EPCs for acute exposures are the maximum 1-hour maximum outdoor air concentration for each COPC measured at any one of the 14 onsite sample locations. The chronic 14-day EPCs and the acute 1-hour maximum EPCs for each COPCs are summarized in the risk characterization tables presented in the Risk Characterization section. The ProUCL outputs are presented in Appendix D.

5.1.5 Human Exposure Factors

The human exposure factors applicable to the inhalation exposure pathway for adults and children are those embedded within the DTSC (2022a) SLs, which are consistent with the residential human exposure factors recommended by DTSC (2019) exposure factor guidelines and consistent with those embedded within the USEPA (2024) RSLs. The key chronic residential exposure factors are exposure time of 24 hours/day, exposure frequency of 350 days/year, and exposure duration of 20 years for adults and 6 years for children. For acute exposures the only applicable exposure factor is the exposure time of 1 hour.

5.2 Toxicity Assessment

Toxicity Assessment is the process of assessing the relationship between human intake of a chemical (e.g., dose) and the corresponding toxic response. This process is also known as dose-response assessment. The results of the dose-response assessment are generally referred to as toxicity values. Over the past 30 years, dose-response assessments have been routinely performed by State and Federal regulatory agencies that publish toxicity values for various types of health effects and exposure pathways.

Consistent with the approach used in this assessment of potential human health risks for the Exposure Assessment, the chronic noncancer- and cancer-based toxicity values used are embedded within the DTSC (2022a) SLs and USEPA (2024) RSLs. Preferentially using DTSC (2022a) SLs and secondarily USEPA (2024) RSLs ensures compliance with the DTSC (2018) Toxicity Criteria Rule.

For assessing 1-hour acute exposures, acute toxicity values were obtained from multiple sources when available. The preferred source of acute toxicity values is OEHHA's acute Reference Exposure Levels (RELs). For COPCs without OEHHA acute RELs, the USEPA's Acute Exposure Guideline Levels (AEGLs; USEPA 2019) are the next preferred source, and in the absence of either acute RELs or AEGLs, then the U.S. Department of Energy (USDOE) Protective Action Criteria (PAC; USDOE 2018) are selected as acute toxicity values. For two COPCs (naphthalene and tetrachloroethene) acute toxicity values were not available from any of these sources but were available from the Minnesota Department of Health as acute Air Guidance Values (AGVs).

As with the exposure parameters described above in Section 5.1.3, the toxicity values described in this Section are also presented in the risk characterization tables in Section 5.3.

5.2.1 MATES V – Summary Description

To date, the SCAQMD has evaluated and reported regional air quality in the Los Angeles basin in five separate studies, entitled Multiple Air Toxics Exposure Study (MATES). The four most recent MATES studies occurred during 1998-1999 (MATES II), 2005 (MATES III), 2012-2013 (MATES IV), and 2018-2019 (MATES V). The most recent study, MATES V, was performed between May 2018 and April 2019 and consisted of monitoring air quality at ten different locations by collecting a total of 528 samples, consisting of approximately 50 to 60 samples per location. The nearest MATES V sampling location is the Long Beach monitoring location, at 1710 East 20th Street in Signal Hill, 1 mile south of Walnut Bluff.

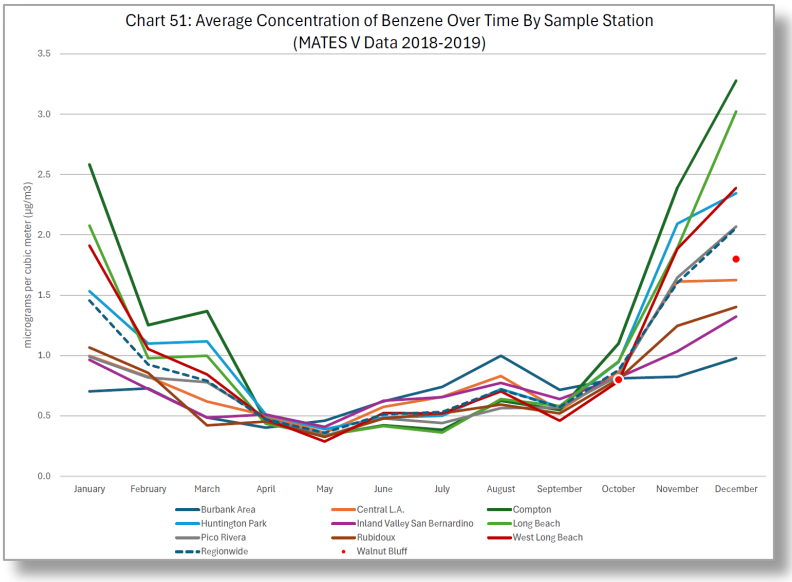
Unlike conventional risk assessments, which utilize the 95% UCL to estimate risks, MATES V assessed risk by using the average concentrations. It is recognized that the MATES V study and findings predate the study reported herein by 6 years. Another important difference is that the MATES V study collected samples approximately every 6 weeks over the course of 12 months. In contrast, this Report presents results and calculates risk based on a single sampling event covering two weeks in October 2024.

Nonetheless, the MATES V study is considered herein to be the most comprehensive and relevant assessment of risk posed by outdoor air quality to human health in the region. Therefore, the findings from the MATES V study are used here to compare with the findings from this study and to evaluate if potential additional human health risks are posed to human health by outdoor air at the Site.

5.2.2 MATES V – Data Trends

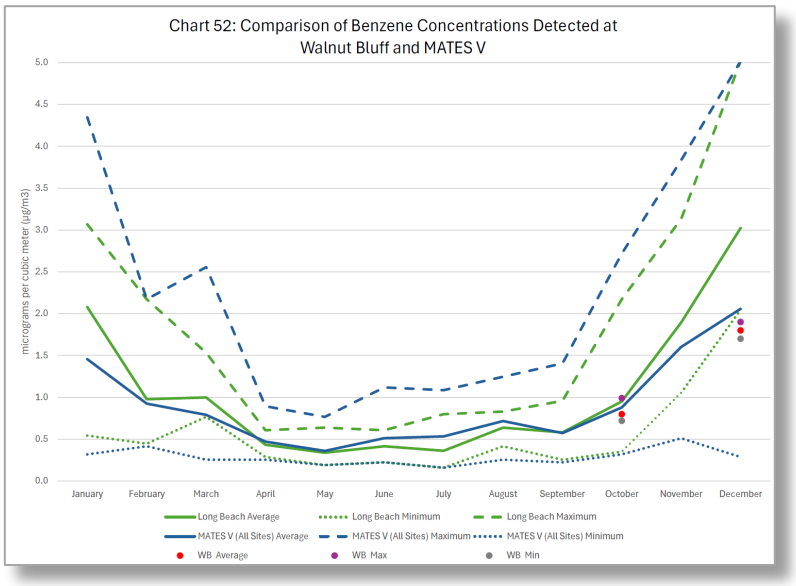
As described above, samples of outdoor air at the Site were collected in October and December 2024. The concentrations of VOCs measured in December were generally higher than concentrations measured in October.

The adjacent Chart 51 shows the average MATES V benzene concentration by monitoring station and the region along with the average benzene concentration measured at the Site. The chart shows that the Site data are comparable with the trends revealed in the MATES V data.



To further assess these trends, the adjacent Chart 52 shows the maximum, average, and minimum concentrations of benzene measured at the nearby MATES V Long Beach station, the regional MATES V data, and Site data. Similar to the preceding chart, the maximum, average, and minimum concentrations measured at the Site are also comparable with, and in some cases slightly lower than, the MATES V data.

Taken together, these charts indicate that the increase trend in on-Site concentrations measured in December are comparable to increase trends revealed in the MATES V data.



5.3 Risk Characterization

Risk Characterization is the process of integrating exposure and toxicity information to characterize potential health risks. Under this process, chronic cancer risks are estimated for individual carcinogens, and the total risk from all carcinogens combined, referred to as the cumulative cancer risk, is then calculated by summing the cancer risks for all carcinogenic COPCs.

A similar process is employed for chronic and acute noncancer hazards whereby chronic and acute noncancer hazards are estimated for individual COPCs, referred to as Hazard Quotients (HQs), and cumulative noncancer hazard, referred to as the Hazard Index (HI), is then calculated by summing the individual chronic and acute noncancer HQs, respectively.

5.3.1 Cancer Risk and Noncancer Hazard Calculations and Equations

The equations used to calculate cancer risk, chronic HQs, and acute HQs are as follows:

$$\mathbf{ILCR = EPC}c\mathbf{ / SLc \times 1x10^{-6}}$$

Where,

ILCR = Incremental Lifetime Cancer Risk (unitless)

EPC*c* = chronic EPC

defined herein as the 95% UCL air concentration (µg/m^3) based on 14-day continuous onsite air monitoring data

SLc = cancer-based screening level (µg/m^3)

Chronic HQ = EPC*c* / SLnc

Where,

Chronic HQ = Chronic Hazard Quotient (unitless)
EPC*c* = chronic EPC
defined herein as the 95% UCL air concentration (µg/m^3) based on 14-day continuous onsite air monitoring data
SLnc = noncancer-based screening level (µg/m^3)

Acute HQ = EPC*a* / AREL

Where,

Acute HQ = Acute Hazard Quotient (unitless)
EPC*a* = acute EPC
defined herein as the maximum 1-hour air concentration (µg/m^3)
AREL = Acute Reference Exposure Level (µg/m^3)

Cumulative cancer, non-cancer hazard, and acute risks:

Cumulative ILCR = Σ ILCR for individual carcinogenic COPCs
Chronic HI = Σ chronic HQs for individual COPCs
Acute HI = Σ acute HQs for individual COPCs

Potential cancer risks, chronic noncancer hazards and acute noncancer hazards associated with measured onsite outdoor air VOC concentrations are presented in Tables 5 and 6, respectively, and summarized below. Potential cancer risks and chronic noncancer hazards associated with measured offsite outdoor air VOC concentrations are presented in Table 7 and summarized below. For perspective and transparency, risk assessment findings are presented separately for petroleum-related COPCs, non-petroleum-related COPCs, and all COPCs combined.

While the standard default comparison threshold for cancer risk is $1x10^{-6}$ (ATSDR 2024) and DTSC, the USEPA (1994) National Contingency Plan (NCP) defines the range of acceptable cancer risks as $1x10^{-6}$ to $1x10^{-4}$. However, the NCP explains that the point of departure for screening risks is $1x10^{-6}$, such that regulatory approval of risks up to $1x10^{-4}$ requires a Site-specific risk assessment or some other technically defensible justification, such as background or regional conditions. Falling within this range is the SCAQMD Air Toxics Hotspots threshold of $1x10^{-4}$, which also characterizes the regional risks posed by outdoor air quality as reported in MATES V (SCAQMD, 2021).

5.3.2 Incremental Lifetime Cancer Risks

For individual petroleum-related COPCs, estimated onsite cancer risks ranged from $2.8x10^{-7}$ to $8.6x10^{-6}$. Benzene, with an ILCR of $8.6x10^{-6}$, is the only petroleum-related COPC exceeding the default cancer risk threshold of $1x10^{-6}$ (Table 5). The onsite cumulative cancer risk for petroleum-related COPCs was $1.0x10^{-5}$, which exceeds the default cancer risk threshold of $1x10^{-6}$, but is less than the SCAAQMD Air Toxics Hotspots threshold of $1x10^{-4}$. As described further below, this level of risk from outdoor onsite air is comparable to the regional risks in the MATES V study.

In the absence of benzene, the onsite cumulative risk associated with petroleum-related COPCs is $1.3x10^{-6}$. This clearly demonstrates that benzene is the only significant driver of petroleum-related VOCs. This discussion is also focused on benzene because benzene is the one petroleum-related "risk driver" COPC measured in both onsite outdoor air samples, offsite outdoor air samples, and the MATES regional monitoring studies.

For individual non-petroleum-related COPCs, estimated cancer risks ranged from $1.7x10^{-7}$ to $2.3x10^{-6}$. The non-petroleum-related COPCs exceeding the default cancer risk threshold of $1x10^{-6}$ were trichlorofluoromethane with an ILCR of $2.3x10^{-6}$, chloroform with an ILCR of $1.3x10^{-6}$, and methylene chloride with an ILCR of $1.1x10^{-6}$. The cumulative cancer risk for non-petroleum-related COPCs was $5.9x10^{-6}$.

The cumulative cancer risk for all COPCs, petroleum-related hydrocarbons and non-petroleum-related hydrocarbons, combined was $1.6x10^{-5}$.

5.3.3 Chronic Noncancer Hazards

For individual petroleum-related COPCs, chronic noncancer HQs ranged from $3.1x10^{-4}$ for ethylbenzene to $0.27x10^{-1}$ for benzene all below the target chronic noncancer HQ of 1 (Table 5). The cumulative chronic noncancer HI for petroleum-related COPCs was $3.2x10^{-1}$, well below the target chronic noncancer HI of 1.

For individual non-petroleum-related COPCs, chronic noncancer HQs ranged from $1.4x10^{-5}$ for chloroethane to $5.3x10^{-1}$ for trichlorofluoromethane all below the target chronic noncancer HQ of 1. The cumulative chronic noncancer HI for non-petroleum-related COPCs was 0.67, well below the target chronic noncancer HI of 1.

The cumulative noncancer HI for all COPCs, petroleum-related hydrocarbons and non-petroleum-related hydrocarbons, combined was 0.99, equivalent to the target chronic noncancer HI of 1.

5.3.4 Acute Noncancer Hazards

For individual petroleum-related COPCs, acute noncancer HQs ranged from $5.7x10^{-6}$ for ethylbenzene to $7.0x10^{-2}$ for benzene, all below the target acute noncancer HQ of 1 (Table 6). The cumulative acute noncancer HI for petroleum-related COPCs was $7.4x10^{-2}$, well below the target acute noncancer HI of 1.

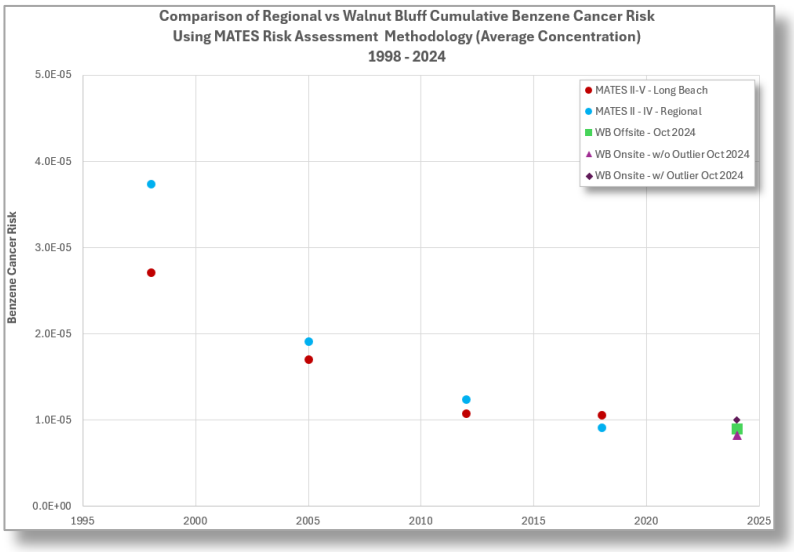
For individual non-petroleum-related COPCs, acute noncancer HQs ranged from $5.5x10^{-7}$ for 1,2-dichloroethane to $1.8x10^{-3}$ for chloroform all below the target acute noncancer HQ of 1. The cumulative acute noncancer HI for non-petroleum-related COPCs was $2.1x10^{-3}$, well below the target acute noncancer HI of 1.

The cumulative noncancer HI for all COPCs, petroleum-related hydrocarbons and non-petroleum-related hydrocarbons, combined was 0.076, also well below the target acute noncancer HI of 1.

5.3.5 Comparison of Onsite, Offsite, and Regional MATES V Benzene Cancer Risks

The focus of this discussion is on benzene because benzene is the “driver” for onsite petroleum-related COPC cancer risks of $1.0x10^{-5}$, which exceeds the $1x10^{-6}$ default cancer risk threshold (Table 5).

Charts 33 through 37 compare the estimated cancer risk posed by benzene, toluene, ethylbenzene, total xylenes, and naphthalene onsite and offsite with risk provided in MATES II, II, III, IV, and V for the region and at the Long Beach location. The chart for benzene, is provided here.



As shown in these Charts and in Table 8, regional outdoor air benzene concentrations and corresponding cancer risk estimates decreased over time from 1998-1999 to 2005 to 2012-2013 to 2018-2019, respectively, and corresponding cancer risk estimates from $4.2x10^{-5}$ to $1.7x10^{-5}$ to $1.1x10^{-5}$ to $1.1x10^{-5}$, respectively.

It is important to note here that the MATES studies calculate cancer risk using average concentration, whereas USEPA and DTSC require the calculation of estimated risk to be based on the 95% UCL. However, for comparison purposes only, Charts 33 through 37 present risk based on average concentrations at the Site Walnut Bluff.

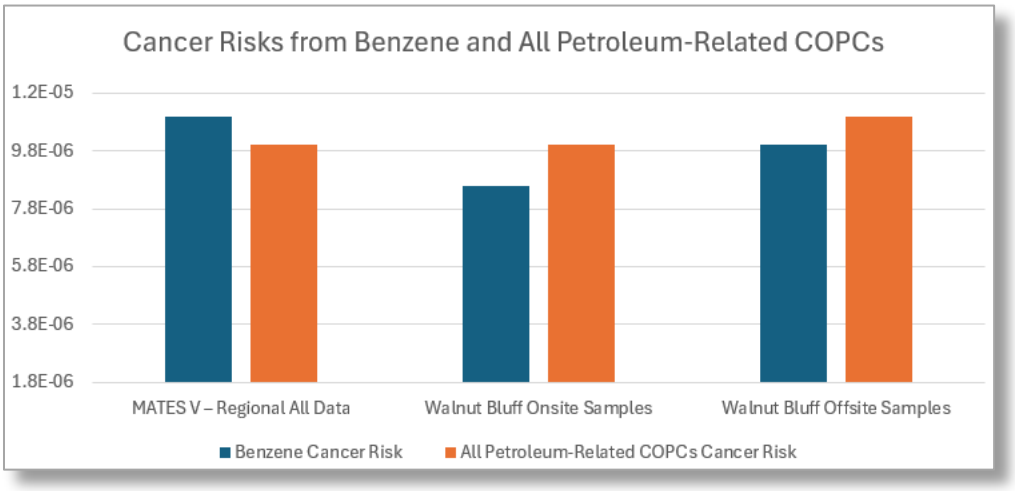
By definition, the arithmetic average concentration is always less than the 95% UCL (USEPA 2022). Therefore, the risks calculated using the 95% UCL of the Walnut Bluff study data should be considered more conservative than cancers risk based on MATES average concentrations. And by extension, comparisons of cancer risks between this study and the MATES data are also conservative. Were this study to assess cancer risk using the arithmetic average (an approach that does not comport with DTSC nor USEPA protocol), then this assessment of potential human health risks would conclude cancer risks lower than presented, and likely lower than the regional cancer risks presented in MATES V.

The most recent regional monitoring cancer risk estimates associated with 95% UCL benzene is comparable to the offsite outdoor air cancer risk estimates ($1.0x10^{-5}$) or the onsite outdoor air cancer risk estimate ($8.6x10^{-6}$).

A more granular version of the above information depicts concentrations measured at each onsite and offsite Walnut Bluff sampling location with MATES V regional and Long Beach data are provided in Charts 38 through 42. Collectively, these data show that overall concentrations, and by extension risks and hazards, measured in this Walnut Bluff study are also comparable to the MATES V study.

For the purpose of comparing onsite and offsite cancer risk estimates, cancer risks for petroleum-related COPCs were also calculated for the offsite sampling locations. Since there were only 3 offsite sampling locations, there was an insufficient sample size for calculating a 95% UCL. As such, cancer risk estimates for offsite outdoor air samples were conservatively based on the maximum detected concentrations. Calculations presented in Table 7 show that the cumulative cancer risk associated with petroleum-related COPCs in offsite outdoor air is $1.1x10^{-5}$, approximately the same as the cumulative cancer risk associated with petroleum-related COPCs in onsite outdoor air of $1.0x10^{-5}$.

Scenario	Benzene Cancer Risk	All Petroleum-Related COPCs Cancer Risk
MATES V – Regional All Data	1.1E-05	1.0E-05
Walnut Bluff Offsite Samples	1.0E-05	1.1E-05
Walnut Bluff Onsite Samples	8.6E-06	1.0E-05



5.4 Discussion of Findings and Uncertainties

The Walnut Bluff outdoor air sampling study was specifically designed to collect appropriate data for assessing potential acute and chronic human exposures, specifically maximum 1-hour concentrations of VOCs and continuous 14-day concentrations of VOCs, respectively. Although any VOC detected in any sample was selected as a COPC, the focus of the assessment of potential human health risks is on current and historical land use (e.g., operation of oil and gas wells). As such, individual COPC and cumulative acute hazards, chronic hazards, and cancer risks are presented in prior sections for petroleum-related COPCs and non-petroleum-related COPCs.

For petroleum-related and non-petroleum COPCs combined, all individual acute HQs and cumulative acute HIs are well below the target HQ and HI of 1.0. All individual chronic HQs as well as petroleum-related and non-petroleum-related cumulative chronic HIs are also below the target HQ and HI of 1.0. The chronic HI for petroleum-related and non-petroleum-related COPCs combined is 0.99, slightly less than the target HI of 1.

The default cancer risk threshold of $1x10^{-6}$ for petroleum-related COPCs, non-petroleum related VOCs, and all COPCs is exceeded in the onsite 14-day outdoor air samples, the offsite 14-day outdoor samples, and also the MATES V study. The range of cumulative petroleum-related cancer risks is relatively small, from $1.0x10^{-5}$ to $1.5x10^{-5}$. The onsite, offsite, and regional (MATES V) benzene concentrations and corresponding cancer risk estimates from all VOCs are comparable.

As noted above in Section 5.2.1, there are important differences between the MATES V study and this Walnut Bluff study. Nonetheless, the MATES V study is considered to be the most comprehensive and relevant assessment of risk posed by outdoor air quality in the region and is used herein to compare with the findings from this study and assessment of potential human health risks posed by outdoor air at the Site.

Although uncertainty is inherent to the risk assessment process, the decisions made in the risk assessment process are biased towards the protection of human health. The key areas of uncertainty generally include (1) exposure assumptions, (2) toxicity data extrapolations, and (3) risk calculations based on the 95% UCL and not the arithmetic average. It is generally recognized that these uncertainties result in the over-estimation of health risk, thus ensuring the protection of human health.

SECTION 6

Conclusions

The following key conclusions are based on the findings presented above:

- In summary, the onsite air quality measured in October 2024 poses no additional measurable risk to human health compared with offsite and regional conditions, and the outdoor air quality measured at the Site is comparable to regional air quality conditions characterized by the MATES V study.

- The study was implemented as designed and the few minor deviations are considered to have not materially affected the data nor the findings.

- The 14-day analytical results and risks based on the onsite samples and offsite samples are comparable to the risks presented in the MATES V regional data.

- The concentrations of petroleum-related hydrocarbons measured in the onsite 14-day samples collected in October 2024 and MATES V samples collected between May 2018 and April 2019 are comparable.

- The onsite cumulative cancer risk for petroleum-related COPCs was 1.0×10^{-5}, which exceeds the default cancer risk threshold of 1×10^{-6}, but is less than the SCAAQMD Air Toxics Hotspots threshold of 1×10^{-4}. This level of risk from outdoor onsite air is comparable to the regional risks in the MATES V study.

- Concentrations in the 1-hour samples typically exceed concentrations measured in the 14-day samples. This means that the 1-hour sampling interval identified based on the PID data accurately identified the daytime period associated with higher concentrations. The assessment of potential human health risks demonstrates that the higher concentrations measured in the 1-hour samples do not pose an acute noncancer hazard.

- Benzene and toluene in the October 14-day air sample collected at WB05 are statistical outliers. The source of these concentrations is unknown, but based on the entirety of the data, they are considered unrepresentative of onsite conditions.
    - A second deployment of 14-day sampling occurred in December 2024 at 4 sampling locations including WB05. The individual VOC concentrations, including benzene and toluene, measured in the 4 December samples were relatively similar. Therefore, the December data provide further indication that the concentrations of benzene and toluene measured at WB05 in October were merely outliers and not indicative of a source at the sampling location. Consequently, it is appropriate to exclude the outliers from the estimates of onsite risk.
- The concentrations of petroleum hydrocarbons measured in the 14 onsite 14-day samples and 3 offsite 14-day samples are similar, which indicates that onsite risks and offsite risks are similar. It is important to recognize that the land use of both the onsite and offsite are similar and consist of SHP properties with active oil and gas operations.

- The increase in on-Site concentrations measured from October to December are comparable to monthly increases revealed in the MATES V data.

- The Final MATES V report documents a decrease of 40% in cumulative cancer risk from MATES IV. However, the Final MATES V report also shows that between MATES IV and MATES V, benzene concentrations reduced

by only 10% indicating that the 30% of the decrease in cumulative cancer risk between MATES IV and MATES V was due largely to the decrease in carcinogenic VOCs unrelated to petroleum. Therefore, assuming no significant changes to petroleum-related hydrocarbons in the regional air quality has occurred since the MATES V study was performed (which could be evaluated by others once the pending Mates VI study is published), it is reasonable to conclude that the Site not a significant source of additional:

  - measurable concentrations of petroleum-related hydrocarbons
  - measurable cumulative cancer risk due to petroleum-related hydrocarbons
  - acute noncancer hazard due to petroleum-related hydrocarbons.
  - cumulative chronic noncancer hazard due to petroleum-related hydrocarbons.

- It is important to note here that this assessment of potential human health risks is based solely on samples collected at the Site during 2 weeks in October 2024. The onsite data collected in October and December 2024 reveal seasonal variability at the Site that is comparable to the MATES V data.

SECTION 7

References

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Tables

Table 2
1 Hour Ambient Air Samples
Proposed Walnut Bluff Development - City of Signal Hill, CA

Sample ID	Date	Time	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1-Difluoroethane	1,2-Dichloroethane	1,4-Dichlorobenzene	Benzene	Carbon tetrachloride	Chloroform	Dichlorodifluoromethane	Ethylbenzene	Naphthalene	o-Xylene	p- & m-Xylenes	Tetrachloroethene	Toluene	Trichlorofluoromethane
			µg/m3														
DTSC SLc			--	--	--	--	0.1	0.47	--	--	--	--	--	--	0.46	--	--
DTSC SLnc			--	--	--	--	3.1	42	--	--	--	--	--	--	42	310	1300
RSLs C			--	--	0.11	0.26	0.36	0.47	0.12	--	1.1	0.08	--	--	11	--	--
RSLs NC			5200	42000	7.3	830	31	100	2	100	1000	3.1	100	100	42	5200	--
WB01-1H	10/9/2024	9:00 - 9:59	0.53	1.1	***0.11***	0.09	***1.8***	***0.5***	***0.25***	2.3	0.57	***0.22***	0.65	2	<0.1	2.8	1.2
WB02-1H	10/9/2024	10:31 - 11:31	0.52	1.1	0.093	0.12	***1.4***	***0.49***	***0.27***	2.3	0.75	***0.29***	0.86	2.6	0.081	2.8	1.2
WB03-1H	10/9/2024	10:35 - 11:33	0.52	1.1	0.093	0.11	***1.4***	***0.5***	***0.23***	2.3	0.81	***0.20***	0.91	2.8	0.09	2.6	1.2
WB04-1H	10/9/2024	10:47 - 11:46	0.52	1.2	0.091	0.1	***1.4***	***0.5***	***0.23***	2.3	0.74	***0.17***	0.82	2.5	<0.1	2.6	1.2
WB05-1H	10/9/2024	11:06 - 12:08	0.52	1.1	0.092	0.093	***1.3***	***0.5***	***0.2***	2.3	0.58	***0.38***	0.64	1.8	<0.1	2.3	1.2
WB06-1H	10/9/2024	10:43 - 11:42	0.52	1.2	0.093	0.1	***1.4***	***0.49***	***0.23***	2.3	0.66	***0.23***	0.74	2.2	<0.1	2.6	1.2
WB07-1H	10/9/2024	8:36 - 9:42	Can arrived evacuated and could not be analyzed.														
WB08-1H	10/9/2024	11:11 - 12:11	0.53	1.1	0.088	0.086	***1.4***	***0.5***	***0.21***	2.3	0.56	***0.16***	0.62	1.7	<0.1	2.6	1.3
WB09-1H	10/9/2024	11:22 - 12:24	0.53	1	0.086	0.093	***1.3***	***0.5***	***0.22***	2.4	0.72	***0.34***	0.9	2.4	<0.1	2.7	1.3
WB10-1H	10/9/2024	11:17 - 12:20	0.52	1.1	0.089	0.1	***1.8***	***0.51***	***0.22***	2.4	0.61	***0.25***	0.64	1.9	<0.1	7.2	1.3
WB11-1H	10/9/2024	11:52 - 12:51	0.52	0.89	0.1	0.11	***1.8***	***0.5***	***0.19***	2.3	0.67	***0.31***	0.75	2.1	0.077	2.8	1.3
WB12-1H	10/9/2024	11:58 - 12:58	0.53	1.7	0.1	0.085	***1.7***	***0.5***	***0.2***	2.4	0.8	***0.30***	0.92	2.6	0.072	3	1.3
WB13-1H	10/9/2024	9:10 - 10:09	0.52	0.98	***0.11***	0.093	***1.9***	***0.5***	***0.22***	2.3	0.57	***0.24***	0.65	1.9	<0.1	2.9	1.2
WB14-1H	10/9/2024	9:18 - 10:19	0.52	0.99	***0.11***	0.097	***1.9***	***0.5***	***0.24***	2.3	0.58	***0.23***	0.68	2	<0.1	3.2	1.2
WB17-1H	10/9/2024	13:30 - 14:37	0.53	0.67	0.07	0.08	***0.88***	***0.5***	***0.19***	2.4	0.61	***0.18***	0.67	2	0.074	1.7	1.3
WB18-1H	10/9/2024	13:52 - 14:56	0.53	0.8	0.073	0.092	***1.1***	***0.5***	***0.2***	2.4	0.52	***0.13***	0.56	1.5	0.12	2.5	1.3
WB19-1H	10/9/2024	9:52 - 10:54	0.54	1.1	***0.11***	0.091	***1.6***	***0.5***	***0.23***	2.4	0.69	***0.77***	0.78	2.4	<0.1	2.8	1.2

Notes:

SLc - - DTSC (May 2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified.

SLnc - DTSC (May 2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified.

RSLs C- USEPA (May 2024) Regional Screening Levels for residential air carcinogenic

RSLs NC- USEPA (May 2024) Regional Screening Levels for residential air Noncarcinogenic

µg/m3 - micrograms per cubic meter

highlighted where above screening criteria

Table 3
24 Hour Ambient Air Samples
Proposed Walnut Bluff Development - City of Signal Hill, CA

Sample ID	Date	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1-Difluoroethane	1,2-Dichloroethane	1,4-Dichlorobenzene	Benzene	Carbon tetrachloride	Chloroform	Dichlorodifluoromethane	Ethylbenzene	Naphthalene	o-Xylene	p- & m-Xylenes	Toluene	Trichlorofluoromethane
		µg/m3													
DTSC SLc		--	--	--	--	0.097	0.47	--	--	--	--	--	--	--	--
DTSC SLnc		--	--	--	--	3.1	42	--	--	--	--	--	--	310	1300
RSLs C		--	--	0.11	0.26	0.36	0.47	0.12	--	1.1	0.083	--	--	--	--
RSLs NC		5200	42000	7.3	830	31	100	2	100	1000	3.1	100	100	5200	--
WB01-24H	10/9 - 10/10/2024	0.52	0.43	0.07	<0.050	***0.74***	***0.47***	***0.15***	2.30	0.29	***0.21***	0.32	0.94	1.30	1.20
WB02-24H	10/9 - 10/10/2024	0.50	0.44	0.07	0.08	***0.88***	0.46	***0.17***	2.30	0.36	***0.43***	0.38	1.00	1.90	1.20
WB03-24H	10/9 - 10/10/2024	0.52	0.48	0.06	<0.050	***0.70***	***0.48***	***0.17***	2.40	0.25	***0.16***	0.29	0.79	1.20	1.20
WB04-24H	10/9 - 10/10/2024	0.52	0.45	0.07	<0.050	***0.85***	***0.48***	***0.15***	2.30	0.28	***0.18***	0.33	0.93	1.40	1.20
WB05-24H	10/9 - 10/10/2024	0.52	0.45	0.07	<0.050	***0.91***	***0.49***	***0.15***	2.30	0.39	***0.19***	0.50	1.40	2.00	1.20
WB06-24H	10/9 - 10/10/2024	0.52	0.42	0.07	<0.050	***0.68***	***0.48***	***0.16***	2.30	0.25	***0.14***	0.28	0.82	1.20	1.20
WB07-24H	10/9 - 10/10/2024	0.51	0.45	0.06	<0.050	***0.71***	***0.47***	***0.16***	2.30	0.25	***0.14***	0.27	0.75	1.20	1.20
WB08-24H	10/9 - 10/10/2024	0.52	0.43	0.07	<0.050	***0.69***	***0.48***	***0.14***	2.30	0.26	***0.15***	0.29	0.80	1.20	1.20
WB09-24H	10/9 - 10/10/2024	0.53	0.42	0.07	<0.050	***0.86***	***0.49***	***0.32***	2.30	0.38	***0.17***	0.49	1.40	1.80	1.20
WB10-24H	10/9 - 10/10/2024	0.52	0.43	0.07	<0.050	***1.10***	***0.48***	***0.15***	2.30	0.47	***0.28***	0.41	1.40	1.70	1.20
WB11-24H	10/9 - 10/10/2024	0.52	0.44	0.07	<0.050	***0.69***	***0.49***	***0.14***	2.40	0.27	***0.12***	0.29	0.85	1.20	1.20
WB12-24H	10/9 - 10/10/2024	0.52	0.44	0.07	<0.050	***0.73***	***0.49***	***0.15***	2.20	0.27	***0.17***	0.32	0.89	1.30	1.20
WB13-24H	10/9 - 10/10/2024	0.53	0.44	0.07	<0.050	***0.72***	***0.49***	***0.17***	2.30	0.26	***0.15***	0.29	0.79	1.20	1.20
WB14-24H	10/9 - 10/10/2024	0.53	0.43	0.07	<0.050	***0.73***	***0.49***	***0.15***	2.20	0.24	***0.13***	0.27	0.77	1.30	1.20
WB17-24H	10/9 - 10/10/2024	0.52	0.47	0.07	<0.050	***0.92***	***0.50***	***0.15***	2.20	0.34	***0.22***	0.40	1.10	2.20	1.20
WB18-24H	10/9 - 10/10/2024	0.52	0.48	0.07	<0.050	***0.94***	***0.49***	***0.14***	2.20	0.51	***0.21***	0.64	1.90	2.10	1.20
WB19-24H	10/9 - 10/10/2024	0.51	0.45	0.08	<0.050	***1.10***	***0.49***	***0.14***	2.30	0.33	***0.16***	0.36	1.10	1.50	1.20

Notes:

SLc - - DTSC (May 2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified.

SLnc - DTSC (May 2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified.

RSLs C- USEPA (May 2024) Regional Screening Levels for residential air carcinogenic

RSLs NC- USEPA (May 2024) Regional Screening Levels for residential air Noncarcinogenic

µg/m3 - micrograms per cubic meter

highlighted where above screening criteria

Table 4
2 Week Ambient Air Samples
Proposed Walnut Bluff Development - City of Signal Hill, CA

Sample ID	Date	1,2,4-Trimethylbenzene	1,2-Dichloroethane	1,3,5-Trimethylbenzene	1,4-Dichlorobenzene	Benzene	Bromomethane	Carbon Tetrachloride	Chloroethane	Chloroform	Chloromethane	Ethylbenzene	1,1,2-Trichloro-1,2,2-trifluoroethane	Freon 114	Dichlorodifluoromethane	Methylene Chloride	Naphthalene	Styrene	Tetrachloroethene	Toluene	Trichlorofluoromethane	Xylene (total)	m,p-Xylenes	o-Xylene
		ug/m3																						
DTSC SLc		--	--	--	--	0.097	--	0.47	--	--	--	--	--	--	--	--	--	--	0.46	--	--	--	--	--
DTSC SLnc		--	--	--	--	3.1	--	42	--	--	--	--	--	--	--	--	--	940	42	310	1300	--	--	--
RSLs C		--	0.11	--	0.26	0.36	--	0.47	--	0.12	--	1.1	--	--	--	100	0.083	--	11	--	--	--	--	--
RSLs NC		63	7.3	63	830	31	5.2	100	4200	2	94	1000	5200	--	100	630	3.1	1000	42	5200	--	100	100	100
WB01-14D	10/1 - 10/15/2024	0.30	0.063	0.074	<0.066	***0.8***	0.08	0.46	<0.029	***0.14***	0.99	0.27	0.46	0.11	2.3	0.55	0.059	0.1	<0.075	1.4	1.1	1.1	0.79	0.32
WB02-14D	10/1 - 10/15/2024	0.37	0.066	0.10	<0.060	***0.83***	0.084	0.45	0.049	***0.16***	0.99	0.33	0.44	0.12	2.3	0.60	0.077	0.12	<0.068	1.5	1	1.3	0.90	0.35
WB02-14D-R2	12/2 - 12/16/2024	1.2	0.1	0.34	0.082	***1.9***	0.15	0.44	<0.026	***0.19***	1.1	0.88	0.46	0.1	2.2	0.84	***0.15***	0.41	0.1	3.3	1.1	3.5	2.50	0.95
WB03-14D	10/1 - 10/15/2024	0.24	0.062	0.055	<0.060	***0.72***	0.082	***0.47***	<0.026	***0.17***	1.0	0.25	0.47	0.12	2.3	0.59	<0.052	0.076	<0.068	1.2	1.1	0.99	0.71	0.28
WB03-14D-R2	12/2 - 12/16/2024	0.92	0.097	0.26	0.092	***1.7***	0.16	***0.45***	<0.026	***0.2***	1.1	0.73	0.47	0.1	2.2	0.93	***0.11***	0.46	0.11	3.2	1.1	3.2	2.3	0.89
WB04-14D	10/1 - 10/15/2024	0.29	0.062	0.065	<0.060	***0.74***	0.075	***0.47***	<0.026	***0.16***	1.0	0.26	0.47	0.12	2.3	1.2	<0.052	0.11	<0.068	1.4	1.1	1.1	0.76	0.3
WB05-14D	10/1 - 10/15/2024	0.29	0.061	0.074	<0.072	***3.2****	0.084	0.46	<0.032	***0.16***	1.0	0.26	0.46	0.11	2.3	0.76	0.074	0.13	<0.081	5.8**	1.1	1.0	0.73	0.29
WB05-14D-R2	12/2 - 12/16/2024	1.3	0.096	0.33	0.09	***1.7***	0.15	0.45	<0.029	***0.19***	1.1	0.72	0.47	0.1	2.2	0.91	***0.16***	0.47	0.12	3.4	1.1	3.1	2.3	0.87
WB06-14D	10/1 - 10/15/2024	0.26	0.062	0.065	<0.060	***0.74***	0.081	***0.47***	0.045	***0.15***	1.0	0.28	0.46	0.12	2.3	0.62	<0.052	0.11	<0.068	1.6	1.1	1.0	0.74	0.29
WB07-14D	10/1 - 10/15/2024	0.29	0.061	0.065	<0.060	***0.72***	0.085	0.46	0.088	***0.14***	0.99	0.26	0.46	0.12	2.3	0.67	0.059	0.12	<0.068	1.5	1.1	0.99	0.71	0.28
WB08-14D	10/1 - 10/15/2024	0.27	0.062	0.061	<0.066	***0.74***	0.08	***0.47***	0.058	***0.14***	1.0	0.26	0.47	0.12	2.3	0.74	<0.058	0.099	<0.075	1.5	1.1	0.98	0.70	0.28
WB09-14D	10/1 - 10/15/2024	0.29	0.063	0.068	<0.060	***0.81***	0.092	***0.47***	0.042	***0.18***	1.0	0.27	0.47	0.12	2.3	2.8	0.078	0.12	<0.068	1.6	1.1	1.1	0.79	0.31
WB10-14D	10/1 - 10/15/2024	0.50	0.072	0.14	<0.060	***0.99***	0.083	0.46	<0.026	***0.15***	0.98	0.45	0.46	0.12	2.3	0.85	***0.14***	0.13	<0.068	1.3	1.1	1.5	1.2	0.37
WB10-14D-R2	12/2 - 12/16/2024	1.10	0.1	0.3	<0.060	***1.9***	0.15	0.45	<0.026	***0.2***	1.1	0.84	0.46	0.1	2.2	0.87	0.06	0.36	0.12	3.2	1.1	3.3	2.5	0.87
WB11-14D	10/1 - 10/15/2024	0.30	0.061	0.073	<0.060	***0.78***	0.089	***0.47***	0.089	***0.14***	1.0	0.27	0.47	0.12	2.3	0.57	***0.086***	0.13	<0.068	1.6	1.1	1.1	0.78	0.31
WB12-14D	10/1 - 10/15/2024	0.32	0.062	0.074	<0.060	***0.85***	0.081	0.46	0.10	***0.14***	1.0	0.29	0.46	0.12	2.3	0.57	0.059	0.14	<0.068	1.9	1.1	1.2	0.83	0.33
WB13-14D	10/1 - 10/15/2024	0.35	0.065	0.085	<0.066	***0.89***	0.083	0.46	<0.029	***0.17***	1.0	0.31	0.46	0.11	2.3	0.60	***0.12***	0.32	0.08	2.0	1.1	1.3	0.94	0.37
WB14-14D	10/1 - 10/15/2024	0.27	0.063	0.067	<0.060	***0.78***	0.085	0.46	<0.026	***0.13***	1.0	0.26	0.46	0.11	2.3	0.59	0.057	0.086	<0.068	1.3	1.1	1.1	0.75	0.3
WB17-14D	10/1 - 10/15/2024	0.33	0.062	0.085	<0.066	***0.82***	0.084	0.46	0.032	***0.14***	1.0	0.3	0.46	0.11	2.3	0.53	0.072	0.13	<0.075	1.7	1.1	1.2	0.89	0.35
WB18-14D	10/1 - 10/15/2024	0.44	0.062	0.11	<0.072	***0.79***	0.11	***0.47***	0.035	***0.14***	1.1	0.3	0.47	0.12	2.4	0.56	0.073	0.13	<0.081	1.7	1.1	1.2	0.88	0.35
WB19-14D	10/1 - 10/15/2024	0.30	0.067	0.081	<0.066	***1***	0.08	0.45	0.069	***0.13***	1.0	0.31	0.45	0.11	2.3	0.50	<0.058	0.18	<0.075	1.8	1.1	1.3	0.95	0.37

Notes:

SLc - - DTSC (May 2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified.

SLnc - DTSC (May 2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified.

RSLs C- USEPA (May 2024) Regional Screening Levels for residential air carcinogenic

RSLs NC- USEPA (May 2024) Regional Screening Levels for residential air Noncarcinogenic

µg/m3 - micrograms per cubic meter

highlighted where above screening criteria

** determined to be a statistical outlier and excluded from all calculations of risk per Section 4.4

Table 5
Characterization of Potential Chronic Human Health Risks Associated with Onsite Outdoor Air Exposure Proposed Walnut Bluff Development

Analyte	N	Detects	Percent FOD	Max Outdoor Air (µg/m^3)	95% UCL Outdoor Air (µg/m^3)	*	Res SLc (µg/m^3)		Res SLnc (µg/m^3)	*	Cancer Risk	Hazard Quotient
Petroleum Hydrocarbons												
Benzene	13	13	100	1.0	0.84		0.097		3.1		8.6E-06	2.7E-01
Toluene	13	13	100	2.0	1.6		NTV		310		-	5.3E-03
Ethylbenzene	14	14	100	0.45	0.31		1.1	2	1,000	2	2.8E-07	3.1E-04
m,p-Xylenes	14	14	100	1.2	0.87		NTV		100	2	-	8.7E-03
o-Xylene	14	14	100	0.37	0.33		NTV		100	2	-	3.3E-03
Naphthalene	14	10	71	0.14	0.086		0.083		3.1	2	1.0E-06	2.8E-02
1,2,4-Trimethylbenzene	14	14	100	0.50	0.34		NTV		63	2	-	5.4E-03
1,3,5-Trimethylbenzene	14	14	100	0.14	0.086		NTV		63	2	-	1.4E-03
Cumulative Cancer Risk and Hazard Index											**1.0E-05**	**3.2E-01**
Non-Petroleum Hydrocarbons												
1,2-Dichloroethane	14	14	100	0.072	0.065		NTV		NTV		-	-
Bromomethane	14	14	100	0.092	0.085		NTV		5.2	2	-	1.6E-02
Carbon Tetrachloride	14	14	100	0.47	0.47		0.47		42		9.9E-07	1.1E-02
Chloroethane	14	7	50	0.10	0.060		NTV		4,200	2	-	1.4E-05
Chloroform	14	14	100	0.18	0.16		0.12	2	2.0	2	1.3E-06	8.0E-02
Chloromethane	14	14	100	1.0	1.0		NTV		94	2	-	1.1E-02
Freon 113	14	14	100	0.47	0.47		NTV		5,200	2	-	9.0E-05
Freon 114	14	14	100	0.12	0.12		NTV		NTV		-	-
Freon 12	14	14	100	2.3	2.3	1	NTV		100	2	-	2.3E-02
Methylene Chloride	14	14	100	2.8	1.1		1		420		1.1E-06	2.7E-03
Styrene	14	14	100	0.32	0.16		NTV		940		-	1.6E-04
Tetrachloroethene	14	1	7.1	0.080	0.080	1	0.46		42		1.7E-07	1.9E-03
Trichlorofluoromethane	14	14	100	1.1	1.1		0.48	2	2.1	2	2.3E-06	5.3E-01
Cumulative Cancer Risk and Hazard Index											**5.9E-06**	**6.7E-01**
Total Cumulative Cancer Risk and Hazard Index[3]											**1.6E-05**	**9.9E-01**

Notes:

N = sample size

FOD = frequency of detection.

95% UCL = 95% upper confidence limit on the mean concentration calculated using USEPA (2022) ProUCL (version 5.2) statistical software.

Res SLc - - DTSC (2022a) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified. June.

Res SLnc - DTSC (2022a) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified. June.

NTV = no toxicity/screening value available

1. Insufficient data for calculating 95% UCL using standard USEPA (2022) methods. Value shown is the lower of the 95% UCL calculated using the 1/2 detection limit method or the maximum concentration.

2. USEPA (2024) Regional Screening Levels for residential air. November.

3. Total Cumulative Cancer Risk and Hazard Index is the combined cancer risks and hazard indices from petroleum hydrocarbons and non-petroleum hydrobarbons.

Table 6
Characterization of Potential Acute Human Health Risks Associated with Onsite Outdoor Air Exposure Proposed Walnut Bluff Development

Analyte	Max 1-Hour (µg/m3)	Acute REL (µµg/m3)	Source	Acute Hazard Quotient (unitless)
Petroleum Hydrocarbons				
Benzene	1.9	27	OEHHA	7.0E-02
Ethylbenzene	0.81	143,297	AEGL	5.7E-06
Naphthalene	0.38	200	AGV	1.9E-03
Toluene	7.2	5,000	OEHHA	1.4E-03
o-Xylene	0.92	22,000	OEHHA	4.2E-05
p- & m-Xylenes	2.8	22,000	OEHHA	1.3E-04
Total Xylenes[2]	3.7	22,000	OEHHA	1.7E-04
Cumulative Acute Hazard Index				**7.4E-02**
Non-Petroleum Hydrocarbons				
1,1,2-Trichloro-1,2,2-trifluoroethane	0.53	NTV	-	-
1,1-Difluoroethane	1.7	NTV	-	-
1,2-Dichloroethane	0.11	200,000	PAC	5.5E-07
1,4-Dichlorobenzene	0.12	NTV	-	-
Carbon tetrachloride	0.51	1,900	OEHHA	2.7E-04
Chloroform	0.27	150	OEHHA	1.8E-03
Dichlorodifluoromethane	2.4	NTV	-	-
Tetrachloroethene	0.09	20,000	AGV	4.5E-06
Trichlorofluoromethane	1.3	NTV	-	-
Cumulative Acute Hazard Index				**2.1E-03**
Total Cumulative Acute Hazard Index[1]				**7.6E-02**

Notes:

OEHHA = California Office of Environmental Health Hazard Assessment (2024) Acute Reference Exposure Levels

AEGL = U.S. Environmental Protection Agency (2019) Acute Exposure Guideline Level

PAC = U.S. Department of Energy (2018) Protective Action Criteria

AGV = Minnesota Department of Health (2024) acute Air Guidance Values (AGVs)

NTV = no toxicity/screening value available.

1. Total Cumulative Acute Hazard Index is the combined acute hazard indices from petroleum hydrocarbons and non-petroleum hydrocarbons.

2. Total Xyelenes not included in the cumulative HI calculations as this would result in double-counting xylenes whereby the cumulative HI for o-xylene + the cumulative HI for m&p-xylene is greater than the cumulative HI for Total Xylenes.

Table 7
Characterization of Potential Chronic Human Health Risks
Associated with Offsite Ambient Air Exposure to Petroleum-Related COPCs
Proposed Walnut Bluff Development

Analyte	N	Detects	Percent FOD	Max Outdoor Air (µg/m3)	95% UCL Outdoor Air (µg/m3)	*	Res SLc (µg/m3)		Res SLnc (µg/m3)	*	Cancer Risk	Hazard Quotient
Petroleum Hydrocarbons												
Benzene	3	3	100	1.0	1.0	1	0.097		3.1		1.0E-05	3.2E-01
Toluene	3	3	100	1.8	1.8	1	NTV		310		-	5.8E-03
Ethylbenzene	3	3	100	0.31	0.31	1	1.1	2	1,000	2	2.8E-07	3.1E-04
m,p-Xylenes	3	3	100	0.95	0.95	1	NTV		100	2	-	9.5E-03
o-Xylene	3	3	100	0.37	0.37	1	NTV		100	2	-	3.7E-03
Naphthalene	3	2	67	0.073	0.073	1	0.083		3.1	2	8.8E-07	2.4E-02
1,2,4-Trimethylbenzene	3	3	100	0.44	0.44	1	NTV		63	2	-	7.0E-03
1,3,5-Trimethylbenzene	3	3	100	0.11	0.11	1	NTV		63	2	-	1.7E-03
Cumulative Cancer Risk and Hazard Index											**1.1E-05**	**3.7E-01**

Notes:

N = sample size

FOD = frequency of detection.

95% UCL = 95% upper confidence limit on the mean concentration calculated using USEPA (2022) ProUCL (version 5.2) statistical software.

Res SLc - - DTSC (2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified. June.

Res SLnc - DTSC (2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified. June.

NTV = no toxicity/screening value available

1. Insufficient data for calculating 95% UCL using standard USEPA (2022) methods. Value shown is the lower of the 95% UCL calculated using the 1/2 detection limit method or the maximum concentration.

2. USEPA (2024) Regional Screening Levels for residential air. May.

Table 8
Comparison of Regional and Walnut Bluff
Average Outdoor Air Petroleum Hydrocarbon Concentrations
Proposed Walnut Bluff Development

Study	Benzene µg/m^3		Toluene µg/m^3		Ethylbenzene µg/m^3		Xylenes µg/m^3		Naphthalene µg/m^3	
	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional
MATES II 1998-1990	2.6	3.6	7.9	13	1.4	2.1	6.1	9.8	ND	ND
MATES III 2005	1.7	1.9	5.7	7.5	0.94	1.2	4.5	4.3	ND	0.20
MATES IV 2012-2013	1.0	1.2	2.8	4.0	0.48	0.90	1.9	3.0	0.08	0.10
MATES V 2018-2019	1.0	0.88	2.3	2.8	0.42	0.49	1.7	2.1	ND	0.061
WB Offsite- Oct 2024	0.87		1.7		0.30		1.2		**0.073**	
WB Onsite - Oct 2024	0.80		1.5		0.29		1.1		**0.081**	

Study	Benzene cancer risk		Toluene noncancer hazard index		Ethylbenzene cancer risk		Xylenes noncancer hazard index		Naphthalene cancer risk	
	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional
MATES II 1998-1990	2.7E-05	3.7E-05	2.6E-02	4.2E-02	1.3E-06	1.9E-06	6.1E-02	9.8E-02	--	--
MATES III 2005	1.7E-05	1.9E-05	1.8E-02	2.4E-02	8.6E-07	1.1E-06	4.5E-02	4.3E-02	--	1.8E-07
MATES IV 2012-2013	1.1E-05	1.2E-05	9.0E-03	1.3E-02	4.3E-07	8.2E-07	1.9E-02	3.0E-02	9.2E-07	1.3E-06
MATES V 2018-2019	1.1E-05	9.1E-06	7.4E-03	9.2E-03	3.8E-07	4.4E-07	1.7E-02	2.1E-02	--	7.4E-07
WB Offsite- Oct 2024	9.0E-06		5.6E-03		2.8E-07		1.2E-02		8.7E-07	
WB Onsite - Oct 2024	8.2E-06		4.9E-03		2.6E-07		1.1E-02		9.7E-07	

Notes:

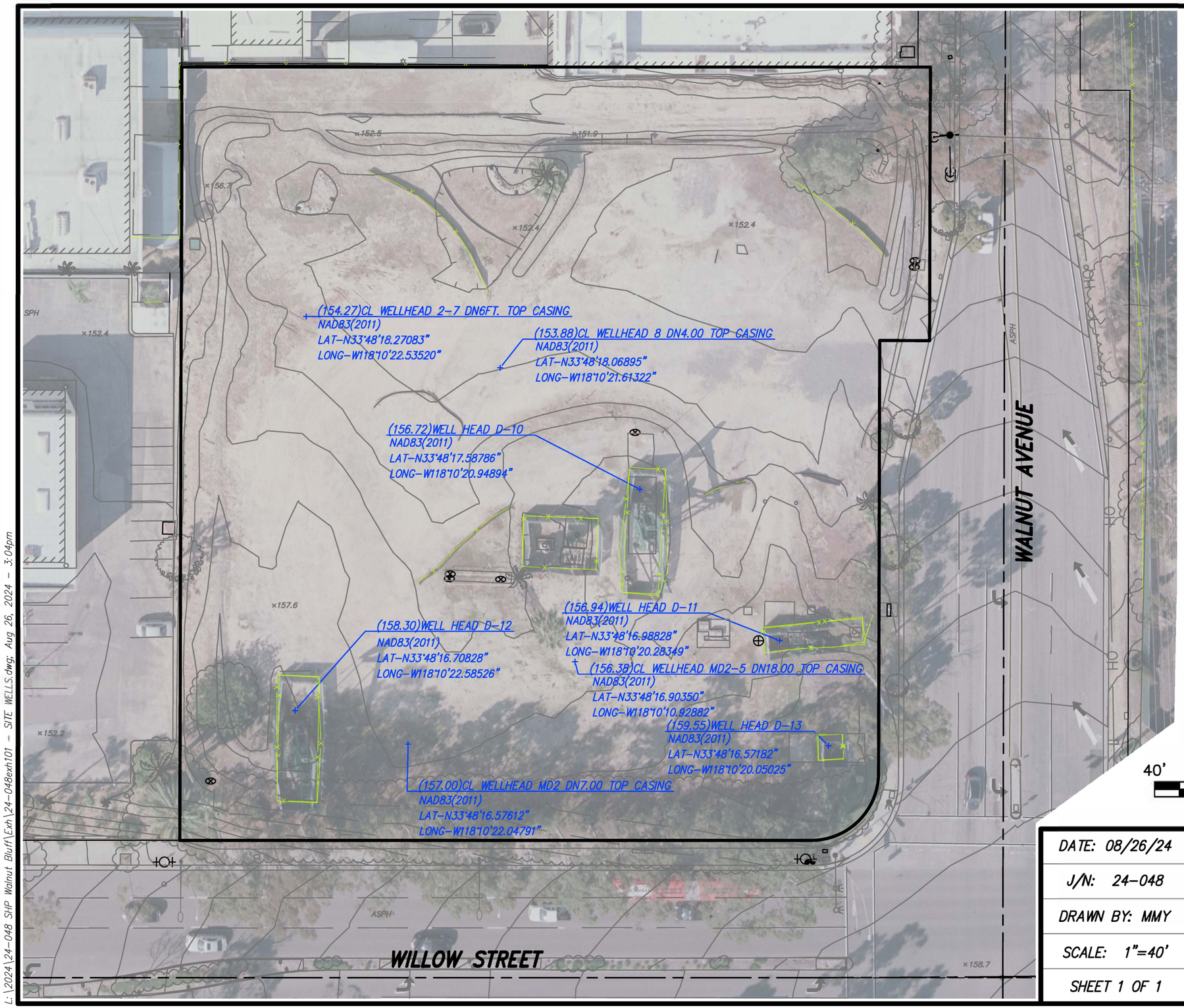
1,2,4-Trimethylbenzene and 1,3,5-trimethylbenzene are not shown as they're concentrations were not reported in the MATES regional studies.

Bold values exceed MATES regional air concentrations.

Figures

Figure 1: Site Location Map
Walnut Bluff
Signal Hill, CA

(Source: Mearns Consulting, LLC 2021)



BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF WALNUT AVENUE AS SHOWN ON RECORD OF SURVEY AS PER MAP FILED IN RECORD OF SURVEY BOOK 98, PAGE 89, BEING NORTH 00°08'30" EAST.

BENCHMARK INFORMATION

THE ELEVATIONS SHOWN HEREON ARE BASED ON THE FOLLOWING BENCHMARK:

BM No.: 063 ELEV.: 158.588' (1985) (CITY OF SIGNAL HILL)

DATUM: NGVD 1929 (MSL)

DESCRIPTION: WILLOW STREET & WALNUT AVENUE SW CORNER BRASS SIDK ST IN 1' SQ. CONCRETE 45' S & 80' W/O C.L. INT. (1' W/O BCR & 1' S/O C.F.) C.L.B. NO. 95 (RE 3111 1971)

SURVEYOR NOTE

COORDINATES REPORTED REPRESENT "GLOBAL – WGS 1984" VALUES

40' 0' 40' 80' 120'

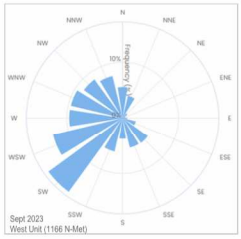
GRAPHIC SCALE: 1"=40'

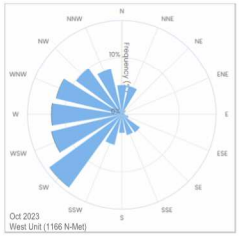
N

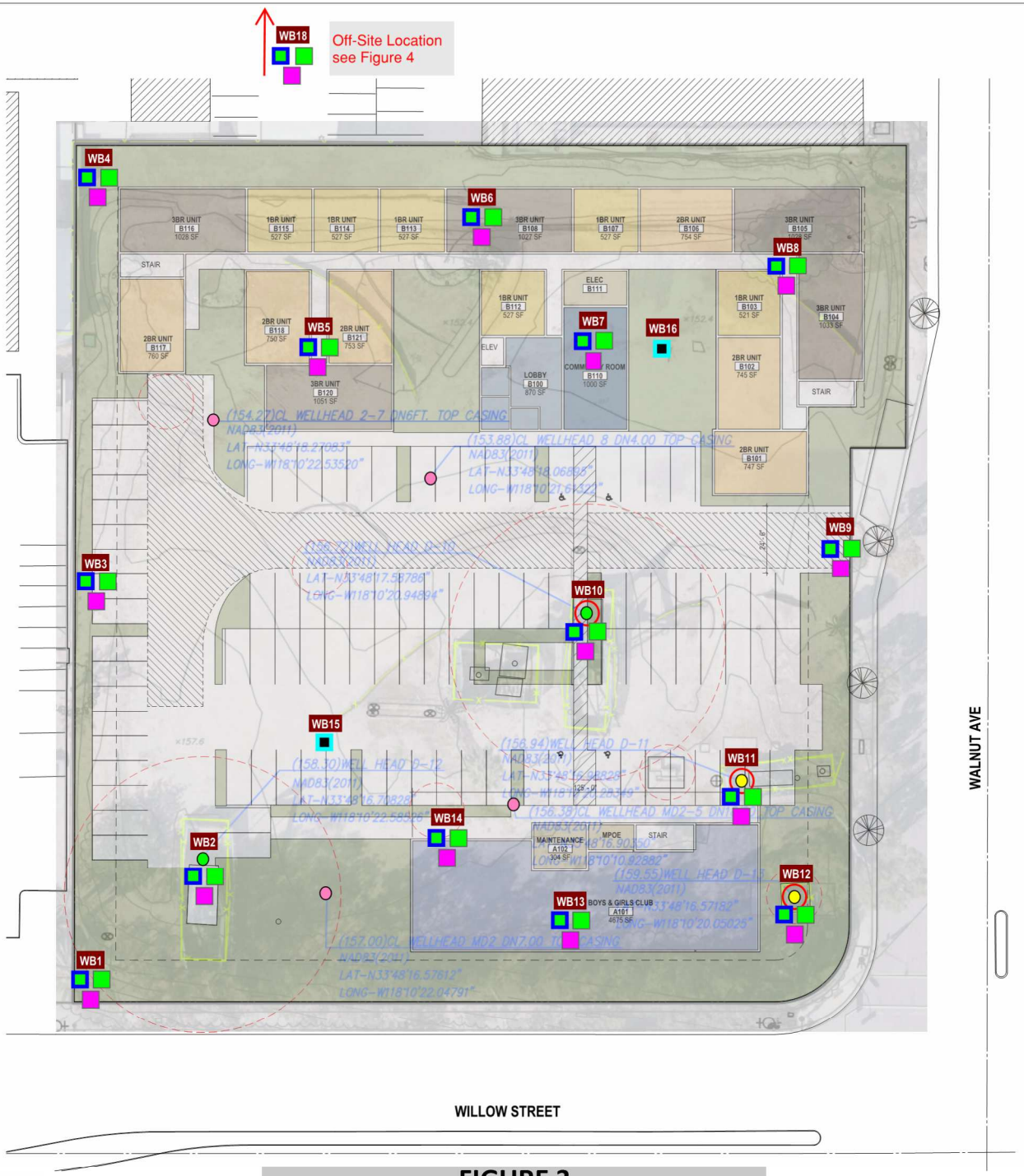
DATE: 08/26/24	WALNUT BLUFF
J/N: 24-048	WELL AS-BUILT SURVEY — Figure 2
DRAWN BY: MMY	SIGNAL HILL, CALIFORNIA
SCALE: 1"=40'	
SHEET 1 OF 1	

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
(714) 685-6860

L:\2024\24-048 SHP Walnut Bluff\Exh\24-048exh101 - SITE WELLS.dwg, Aug 26, 2024 - 3:04pm







Legend

- 2 week
  PID Continuous Monitoring [P]
  Summa Canister by TO15sim [S14]
- 24 hour
  Summa Canister by TO15sim
- 1 hour
  Summa Canister by TO15sim
- Weather Monitoring Station [W]
- WB1 Sample/Monitoring Location ID
  Samples to be labeled as follows:
  [Location ID][Sample Type]
  e.g. WB1S24 = WB1, 24hr Summa

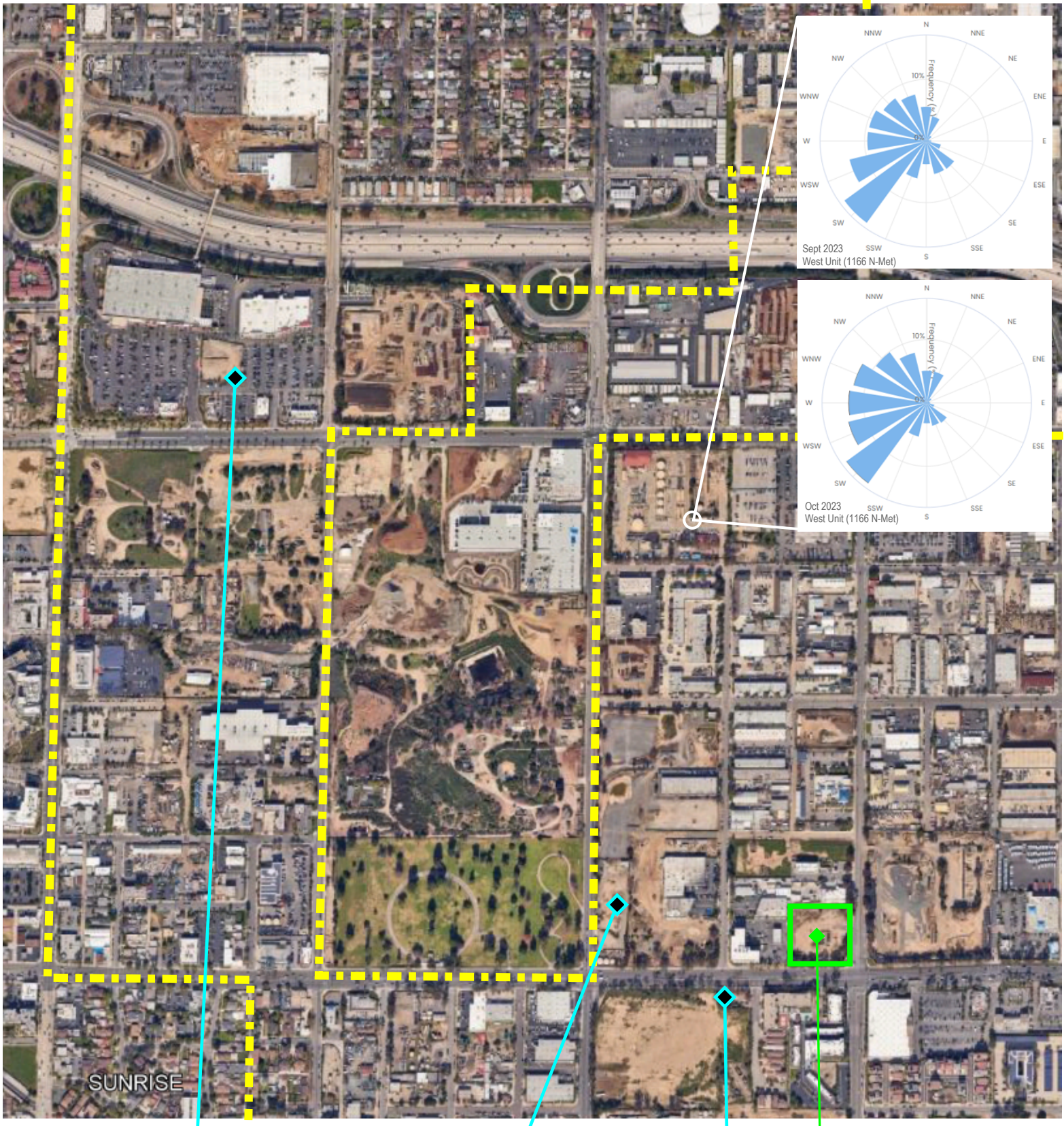
- Active Well
- Idle Well
- Abandoned Well
- To Be Abandoned

FIGURE 3
ON-SITE SAMPLING LOCATIONS

Base Map Adapted -
KFA - National Core Walnut Bluff -
Sheet A11 - First Floor Plan
(05.31.2024)

Overlay - topography and oil & gas well locations
DRC Engineering, Well As-Built Survey
Well As-Built Survey
(08.26.24)

Catalyst
ENVIRONMENTAL SOLUTIONS



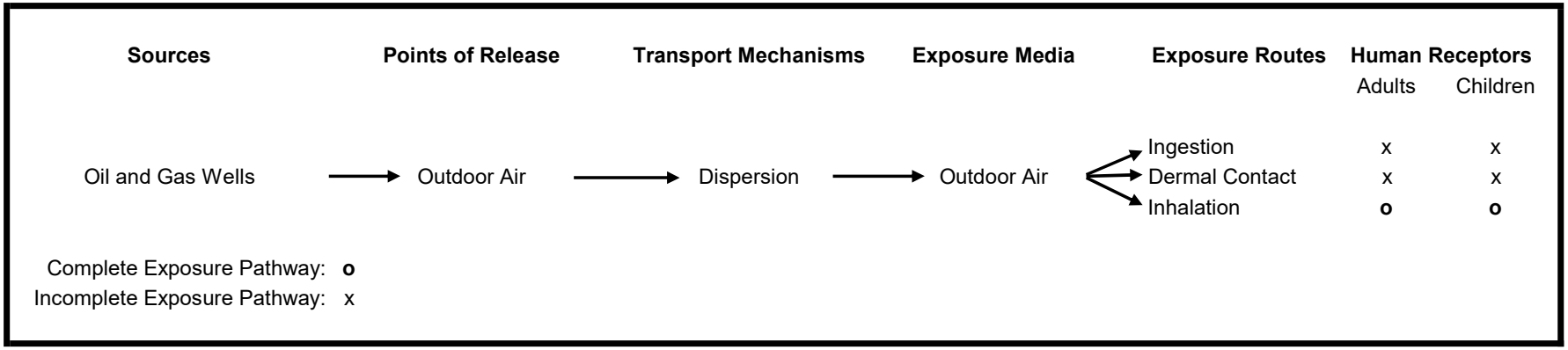
Signal Hill City Limits

FIGURE 4
OFF-SITE OUTDOOR AIR SAMPLING PLAN

Note:
See Figure 3 for Sampling Legend.

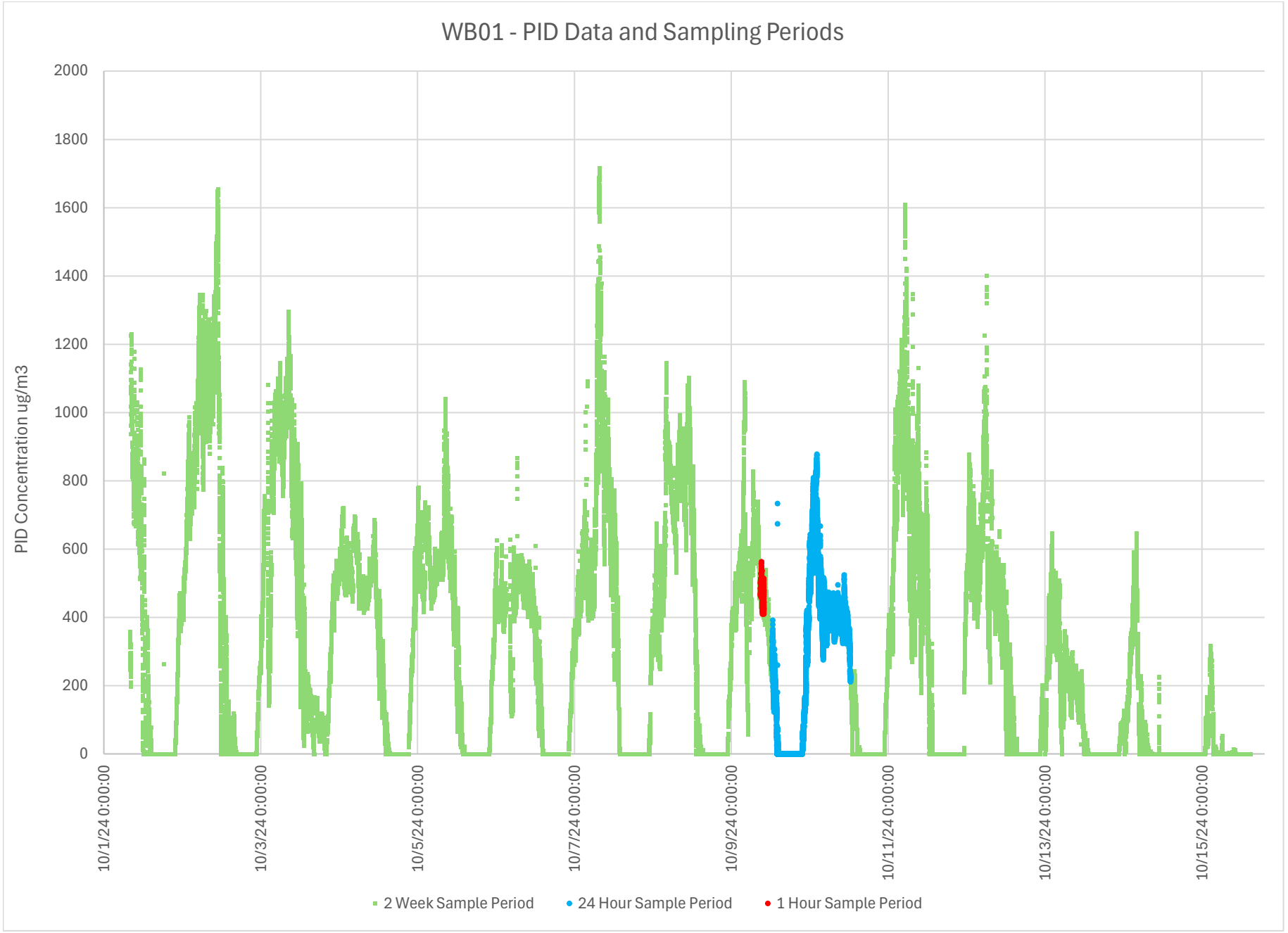
Catalyst ENVIRONMENTAL SOLUTIONS

Figure 5
Human Health Risk Assessment Conceptual Site Model
Proposed Walnut Bluff Development



Charts

CHART 1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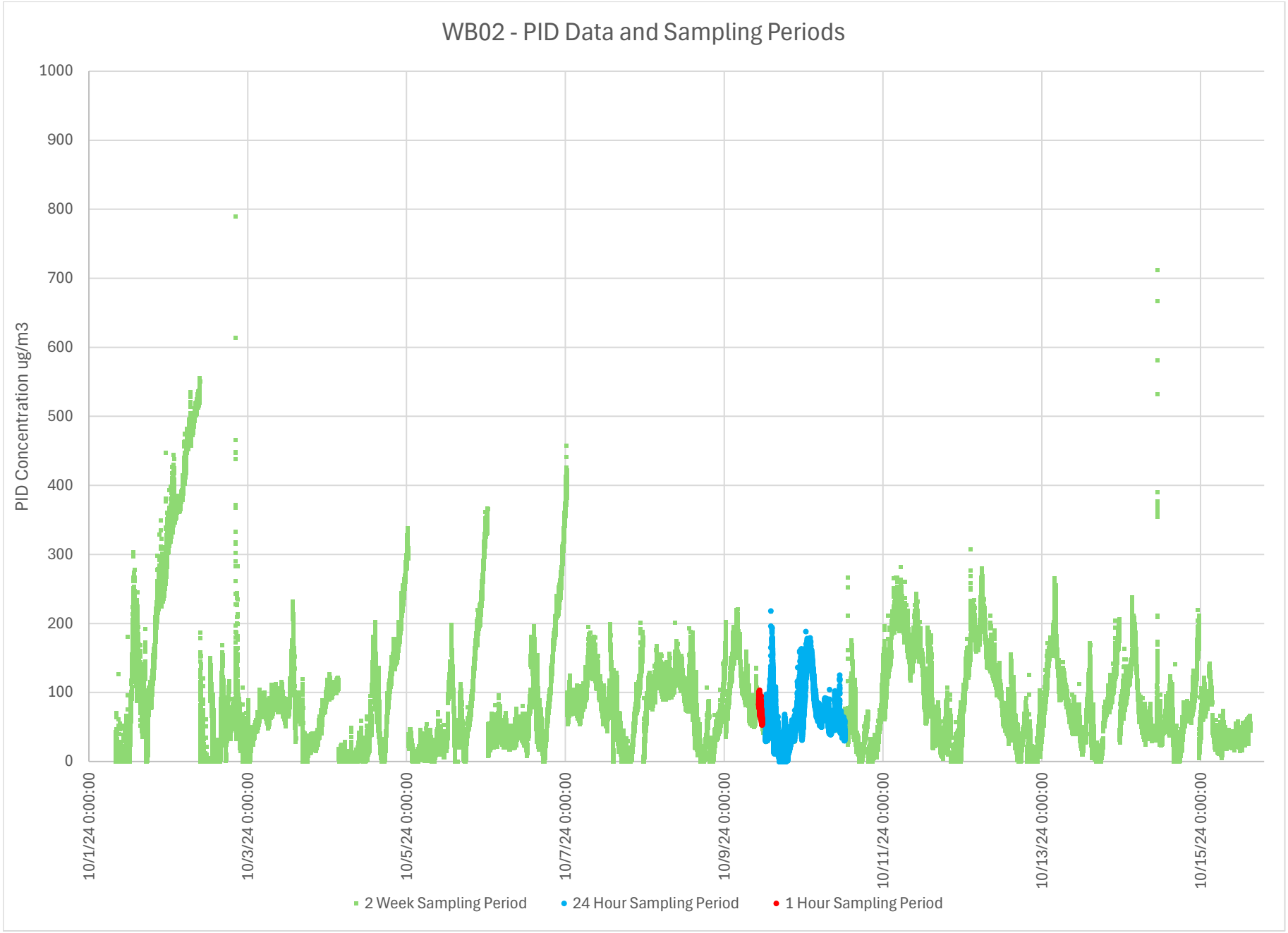
1800
1600
1400
1200
1000
800
600
400
200
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sample Period
24 Hour Sample Period
1 Hour Sample Period

CHART 2


WB02 - PID Data and Sampling Periods
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900
800
700
600
500
400
300
200
100
0
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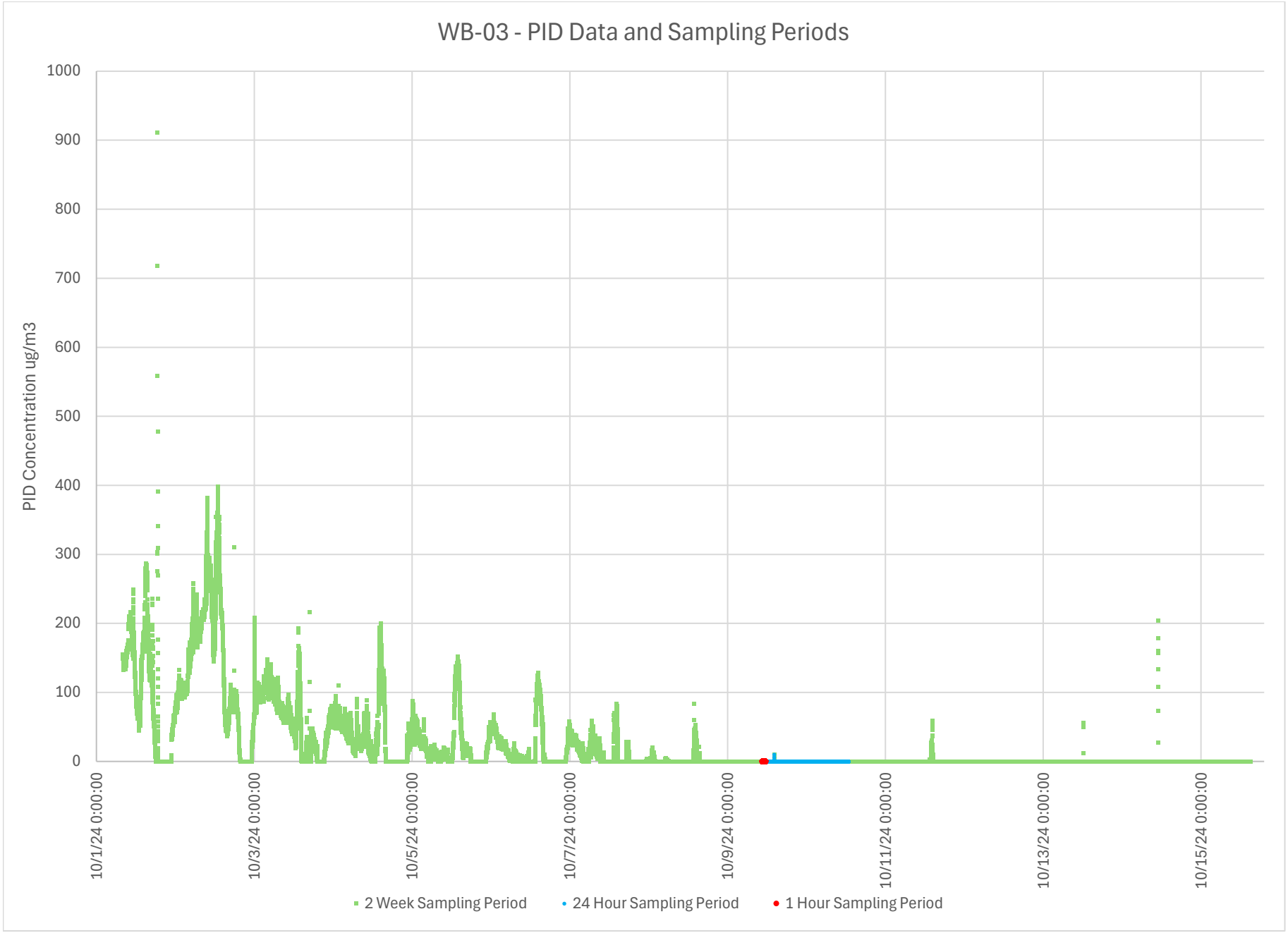
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 3


WB-03 - PID Data and Sampling Periods
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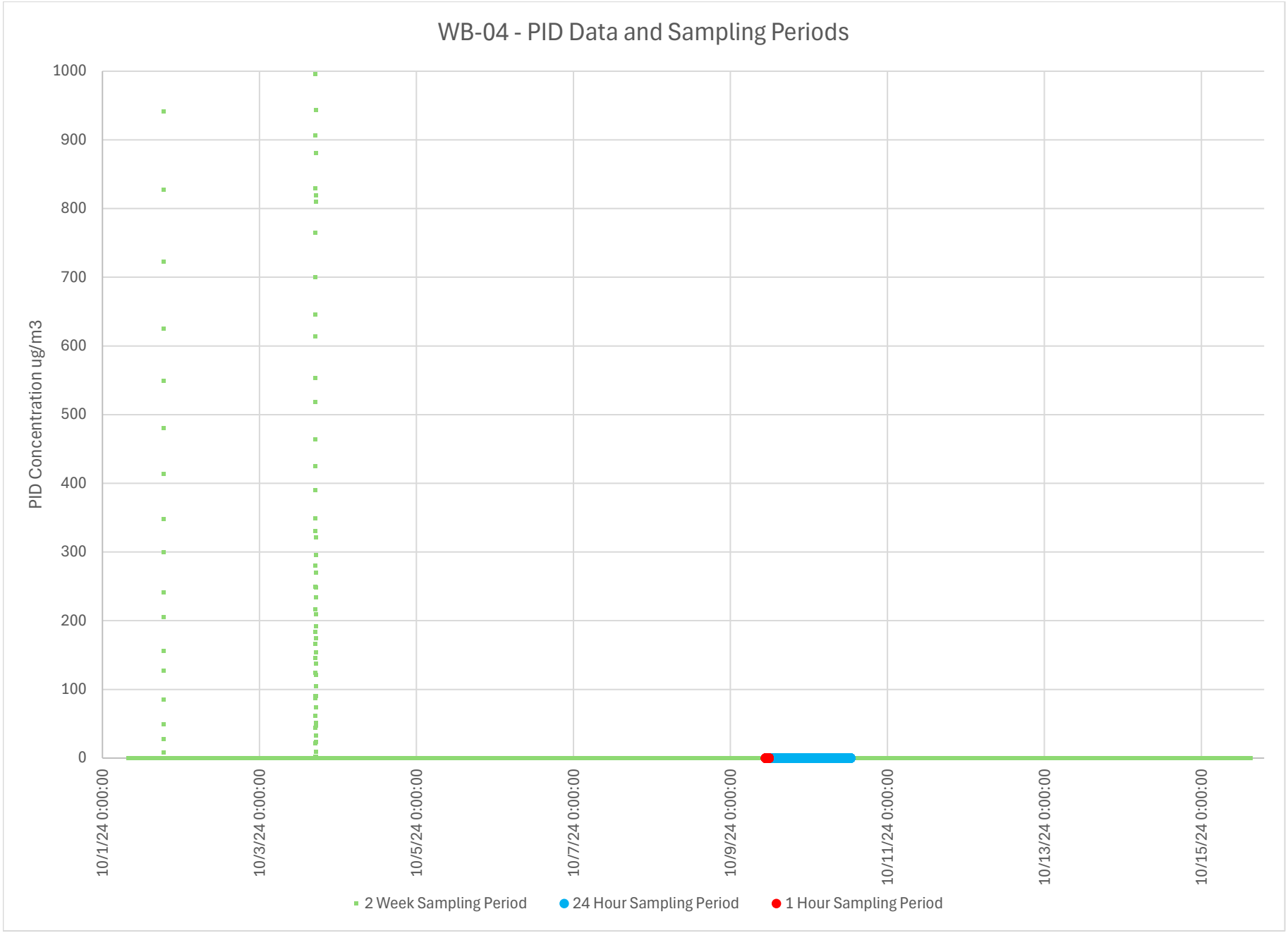
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 4


WB-04 - PID Data and Sampling Periods
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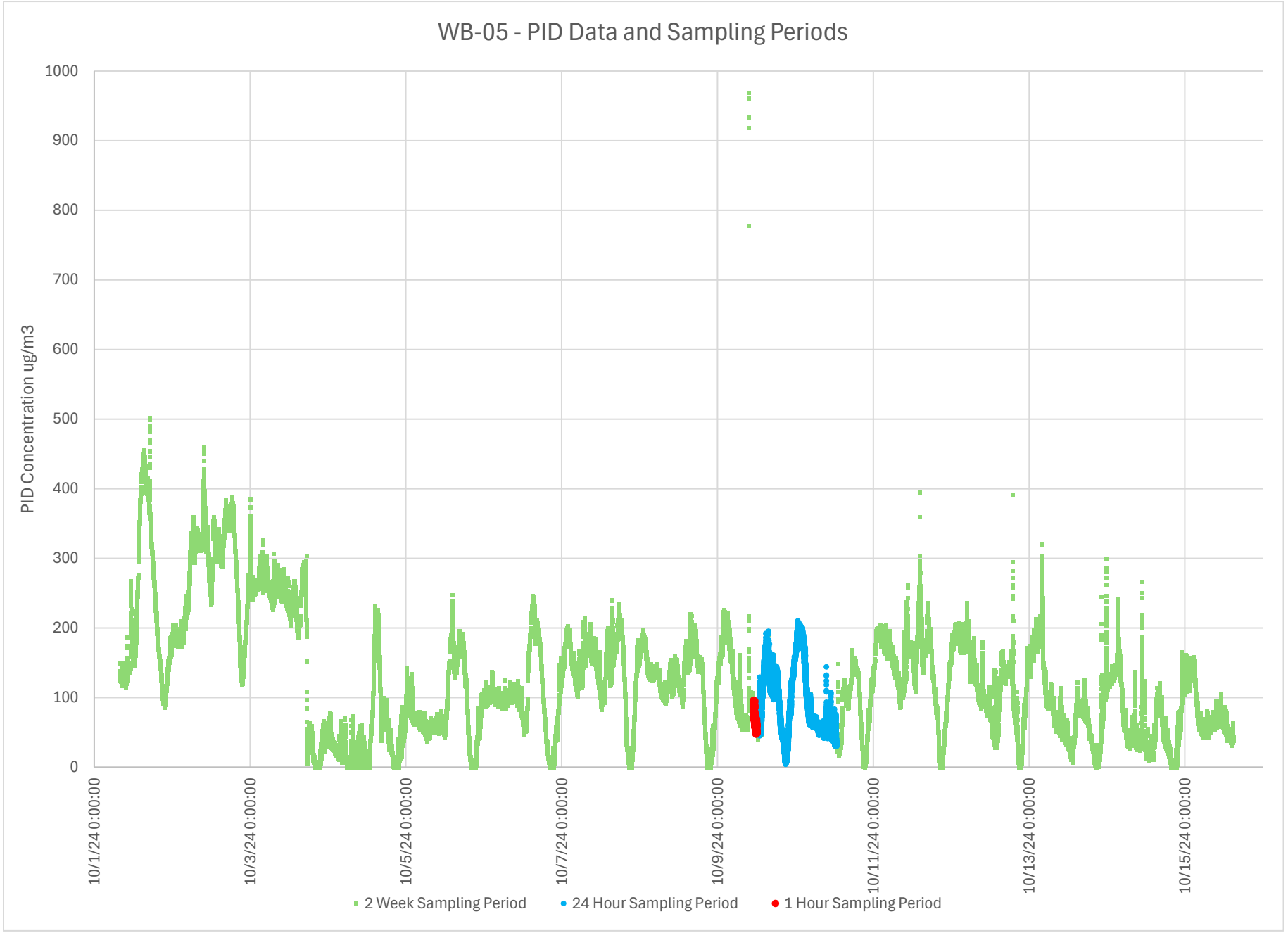
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 5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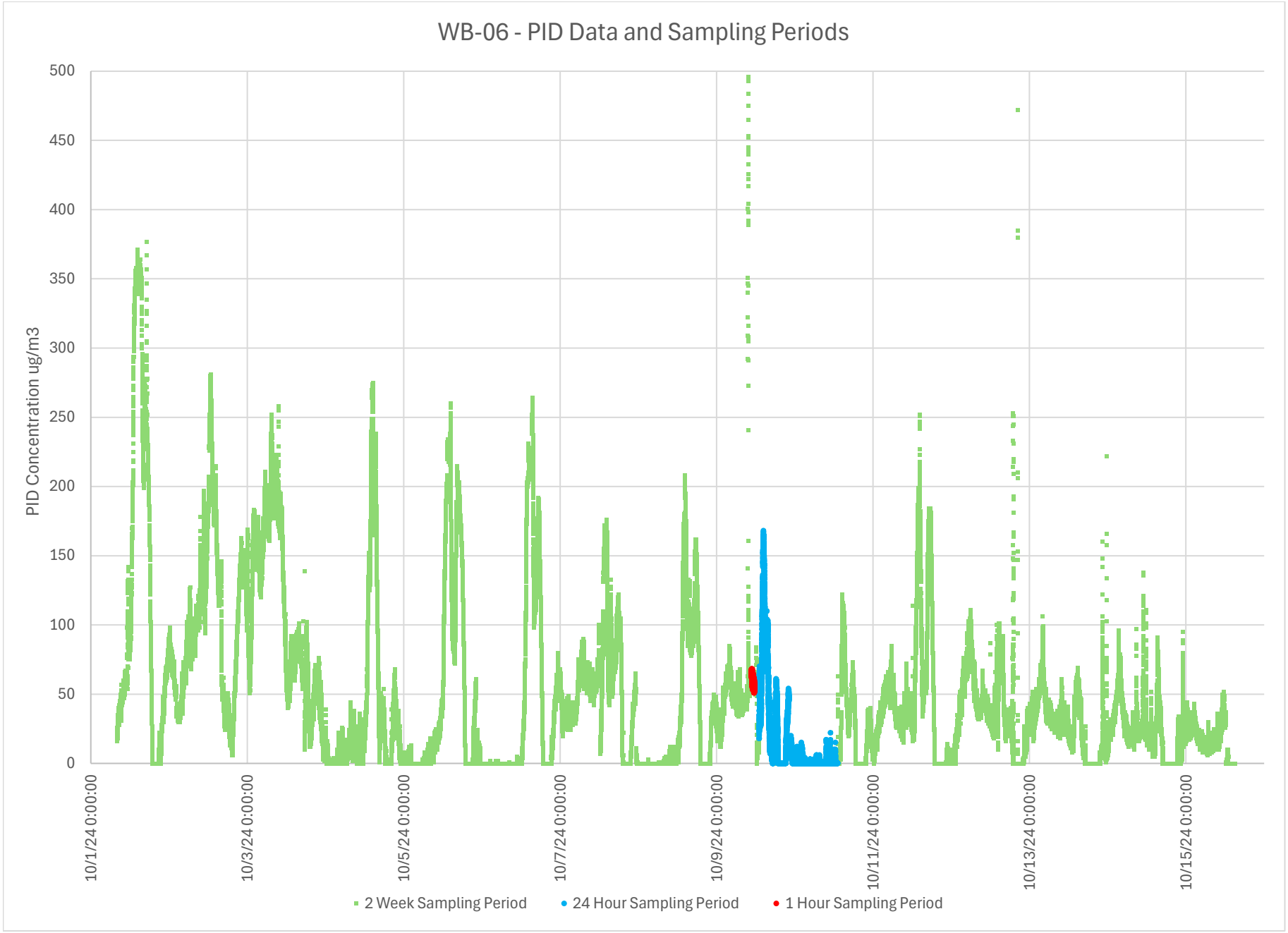
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 6


WB-06 - PID Data and Sampling Periods
PID Concentration ug/m3
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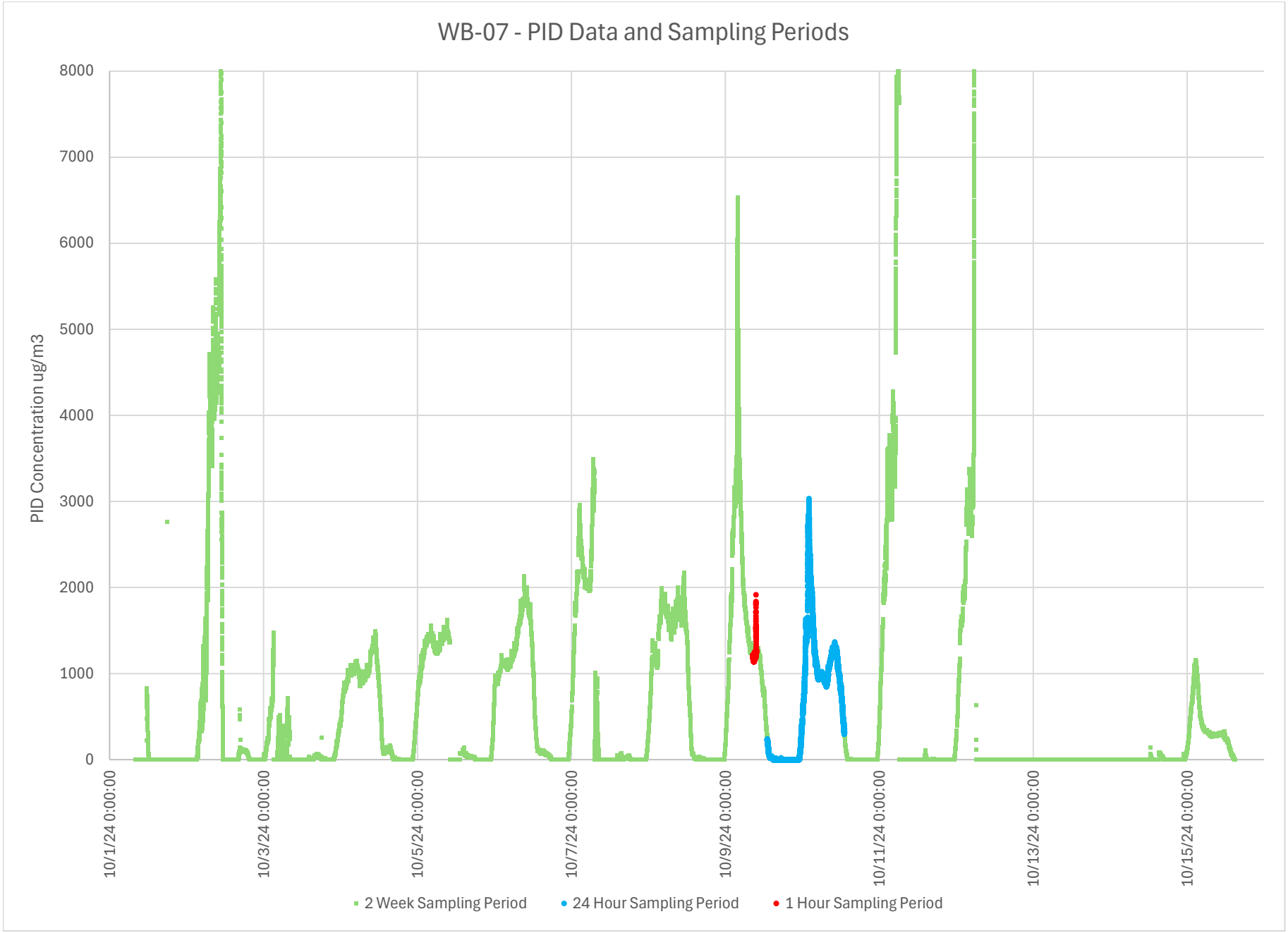
450
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 7


WB-07 - PID Data and Sampling Periods
PID Concentration ug/m3
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7000
6000
5000
4000
3000
2000
1000
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
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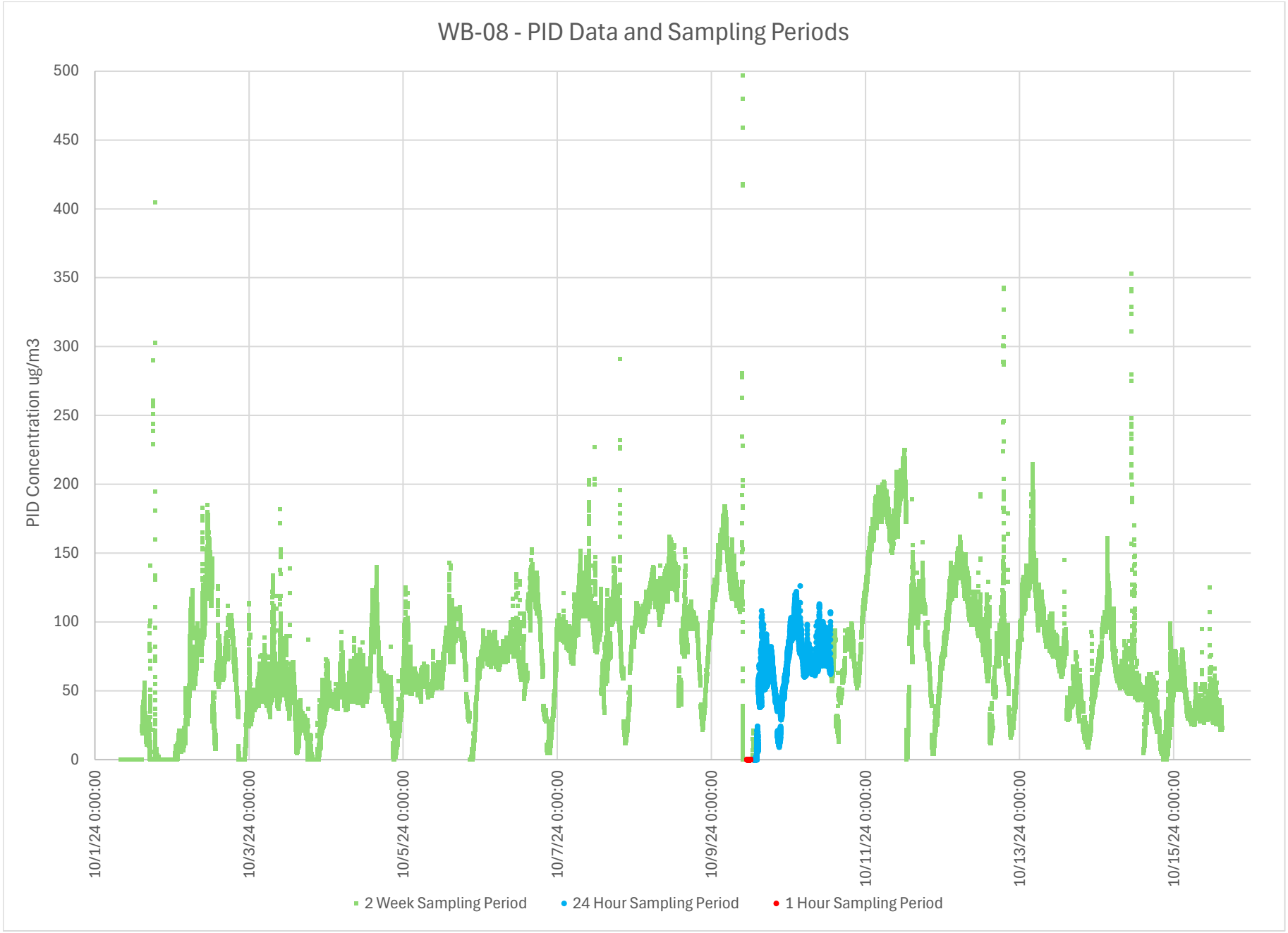
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 8


WB-08 - PID Data and Sampling Periods
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400
350
300
250
200
150
100
50
0
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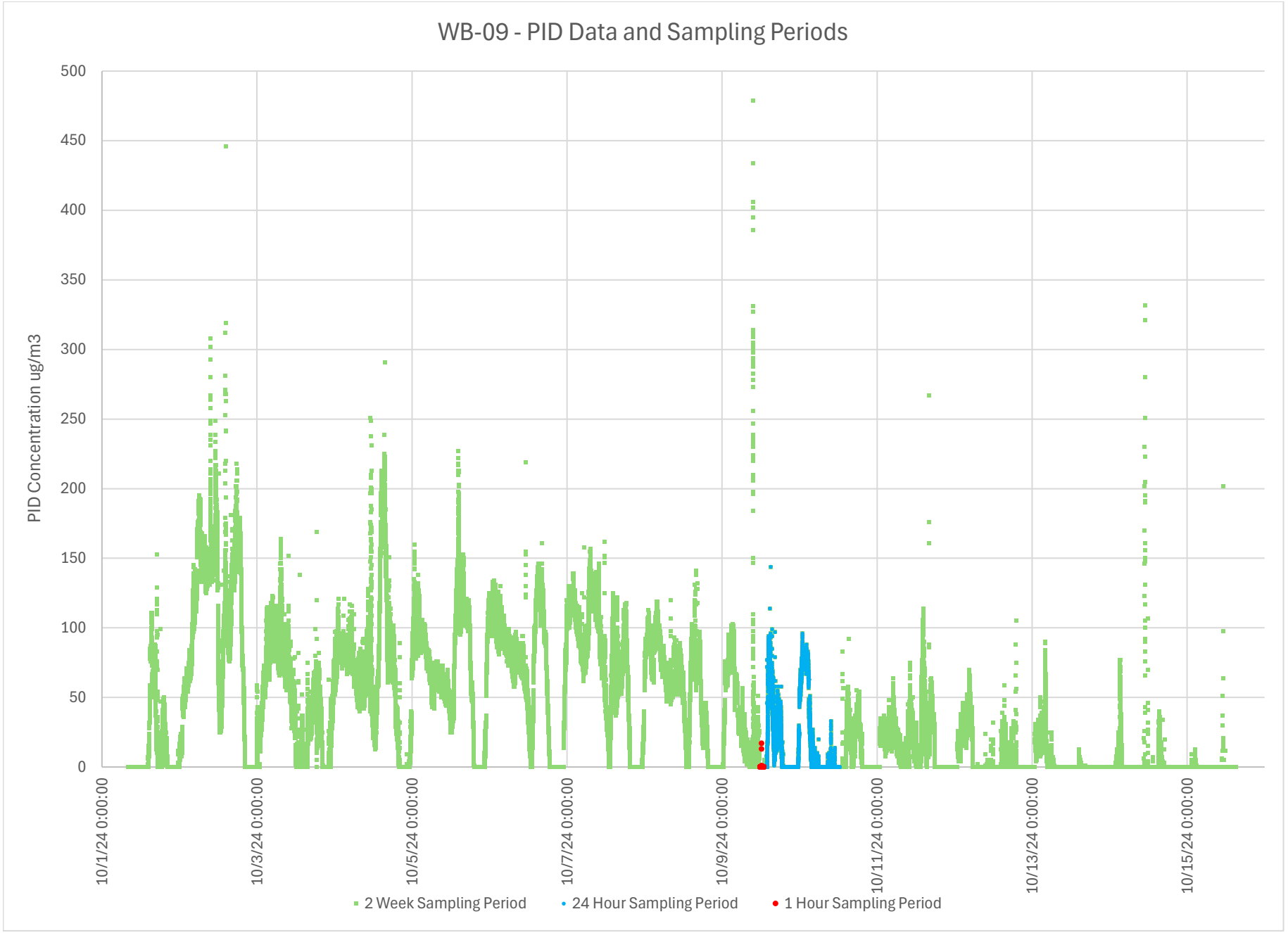
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 9


WB-09 - PID Data and Sampling Periods
PID Concentration ug/m3
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450
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 10

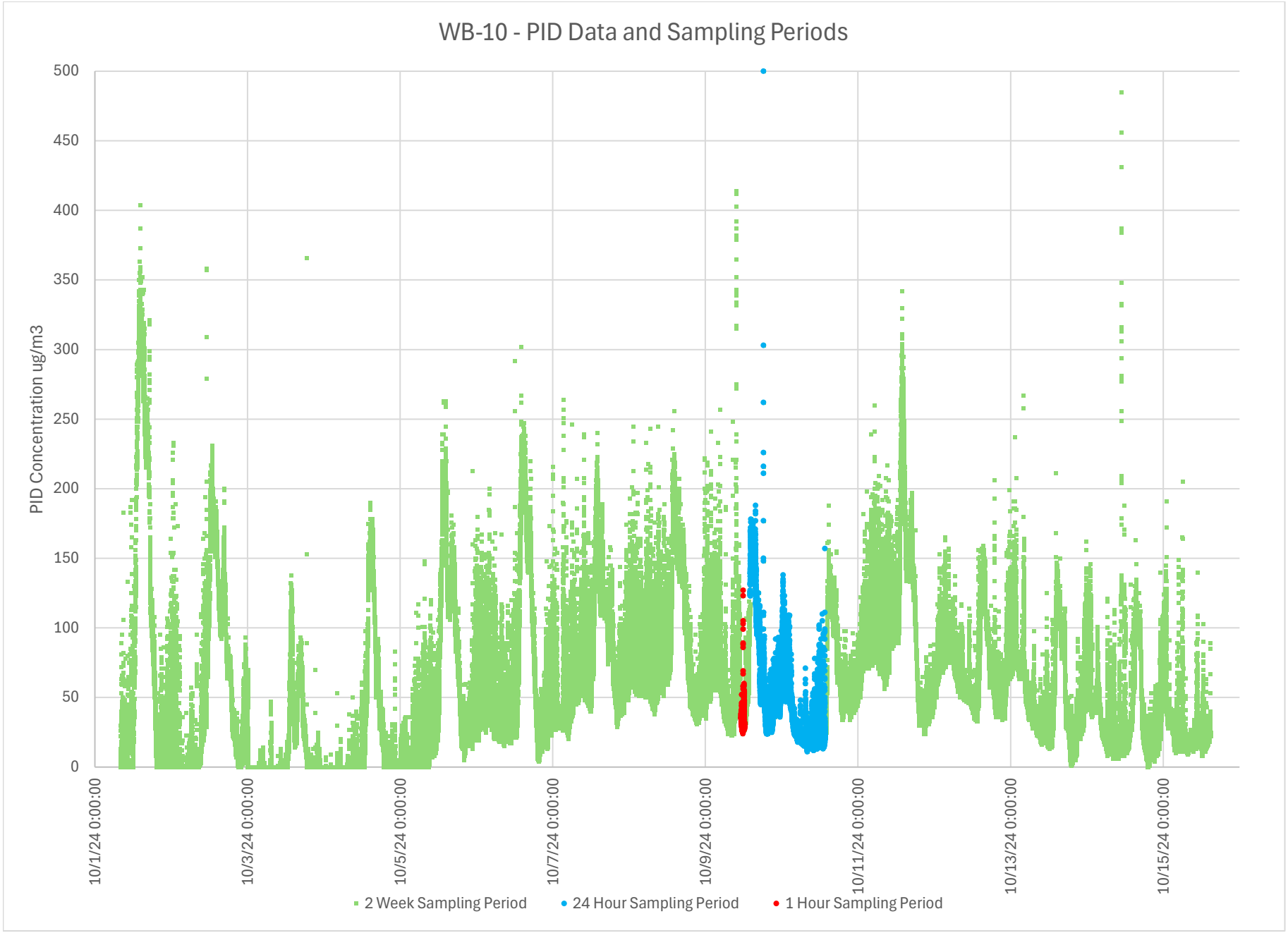

WB-10 - PID Data and Sampling Periods
PID Concentration ug/m3
500
450
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 11

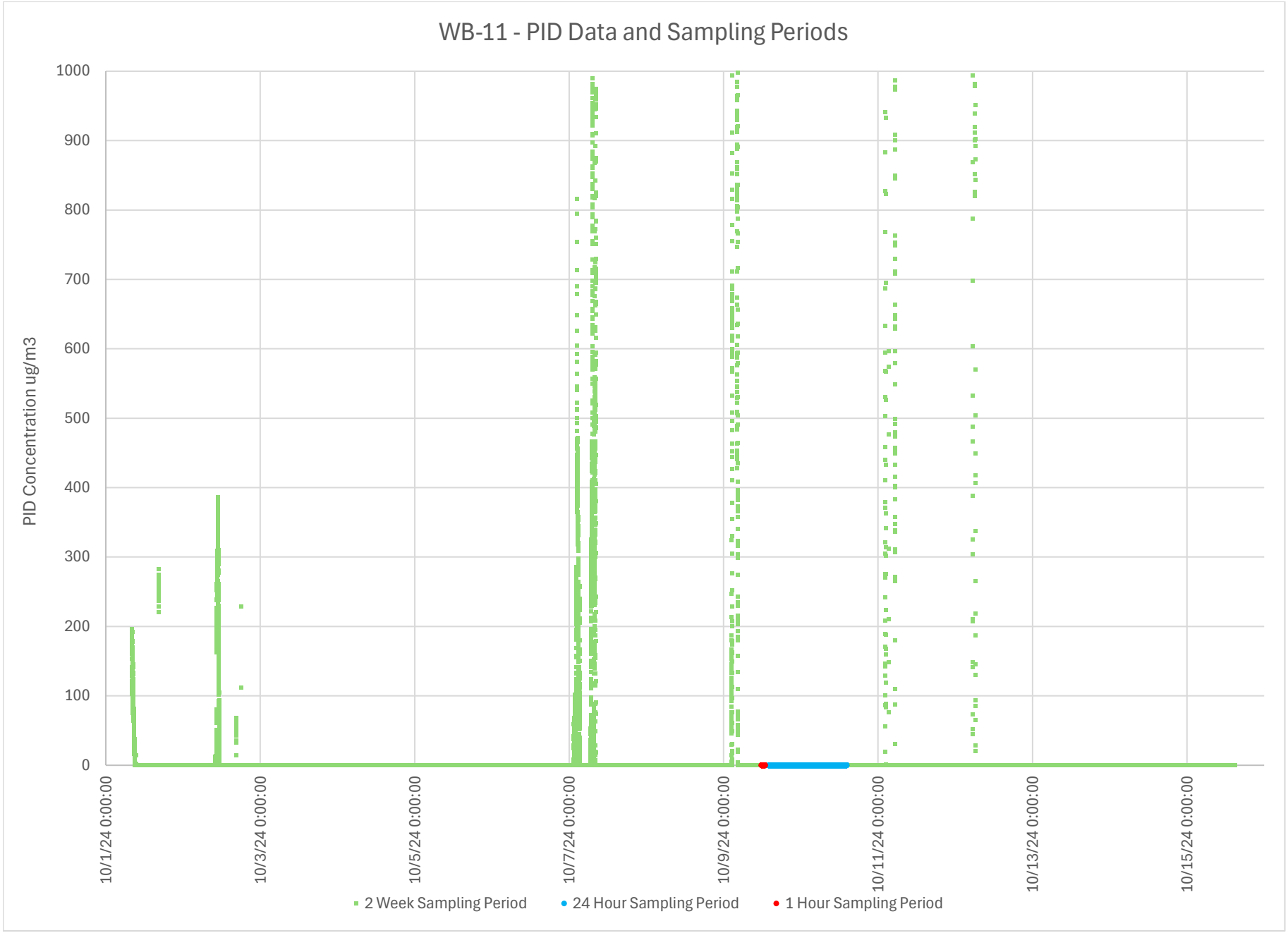
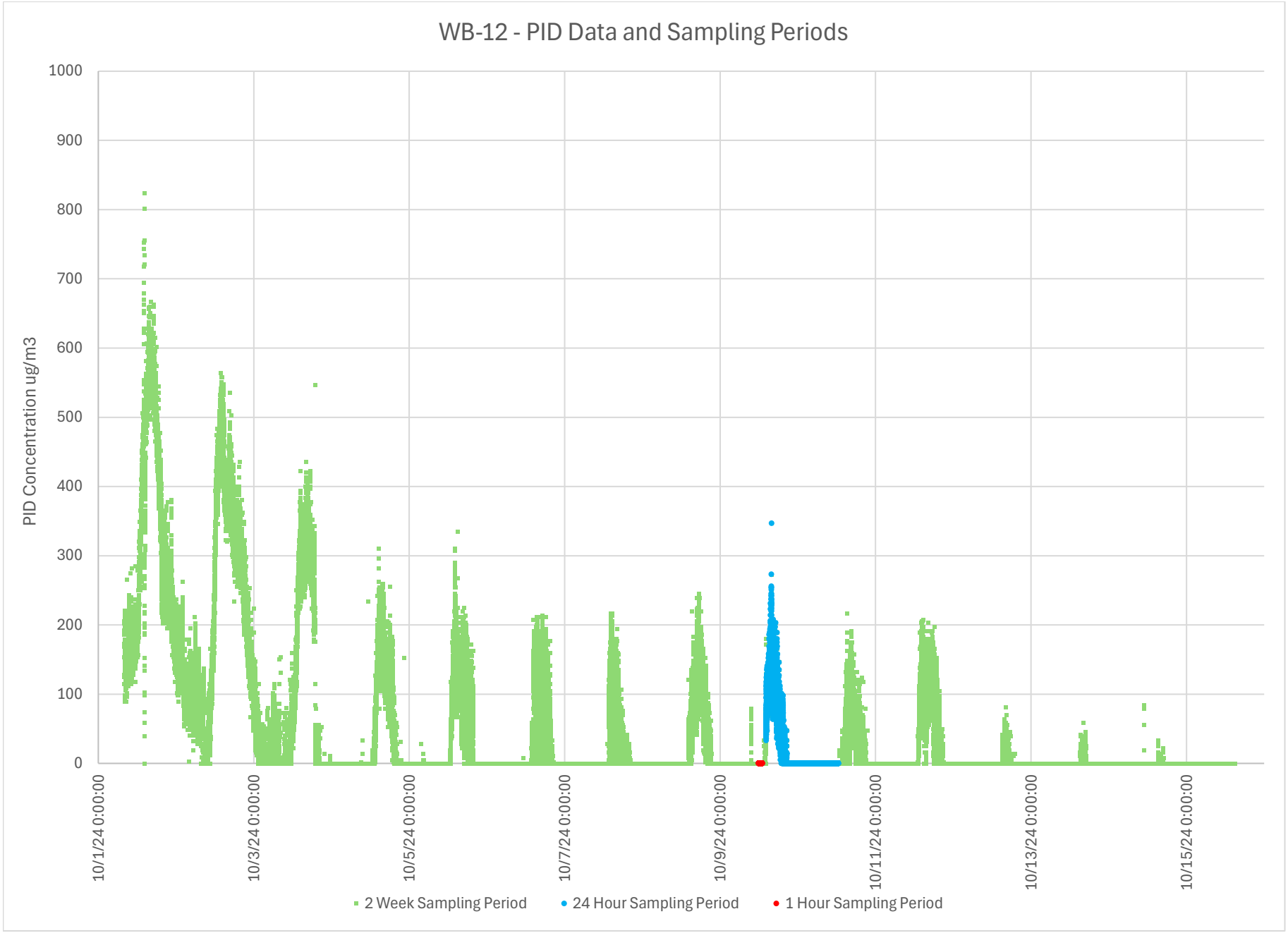

WB-11 - PID Data and Sampling Periods
PID Concentration ug/m3
1000
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 12


WB-12 - PID Data and Sampling Periods
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900
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700
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300
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0
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10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
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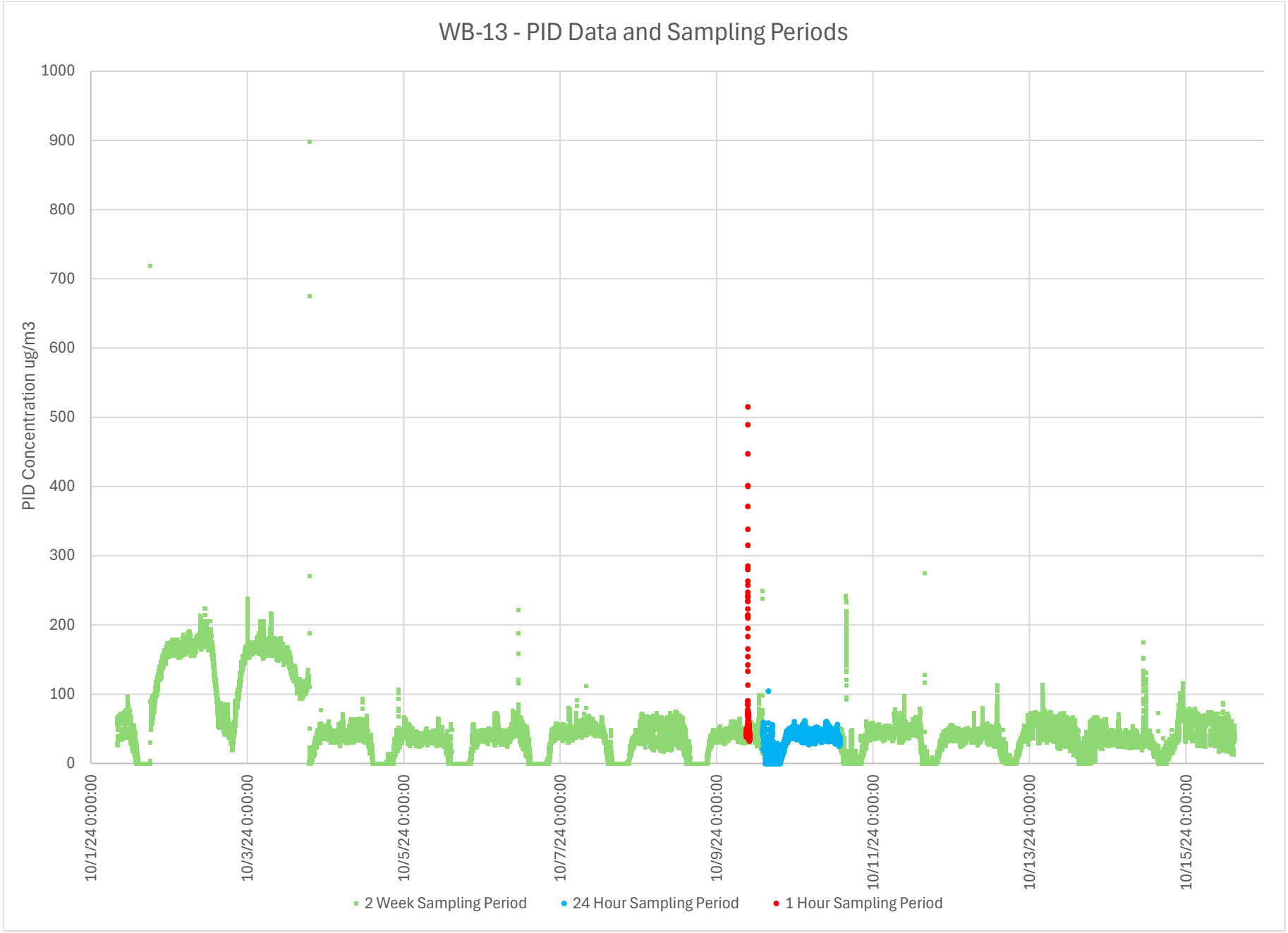
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 13


WB-13 - PID Data and Sampling Periods
PID Concentration ug/m3
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700
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500
400
300
200
100
0
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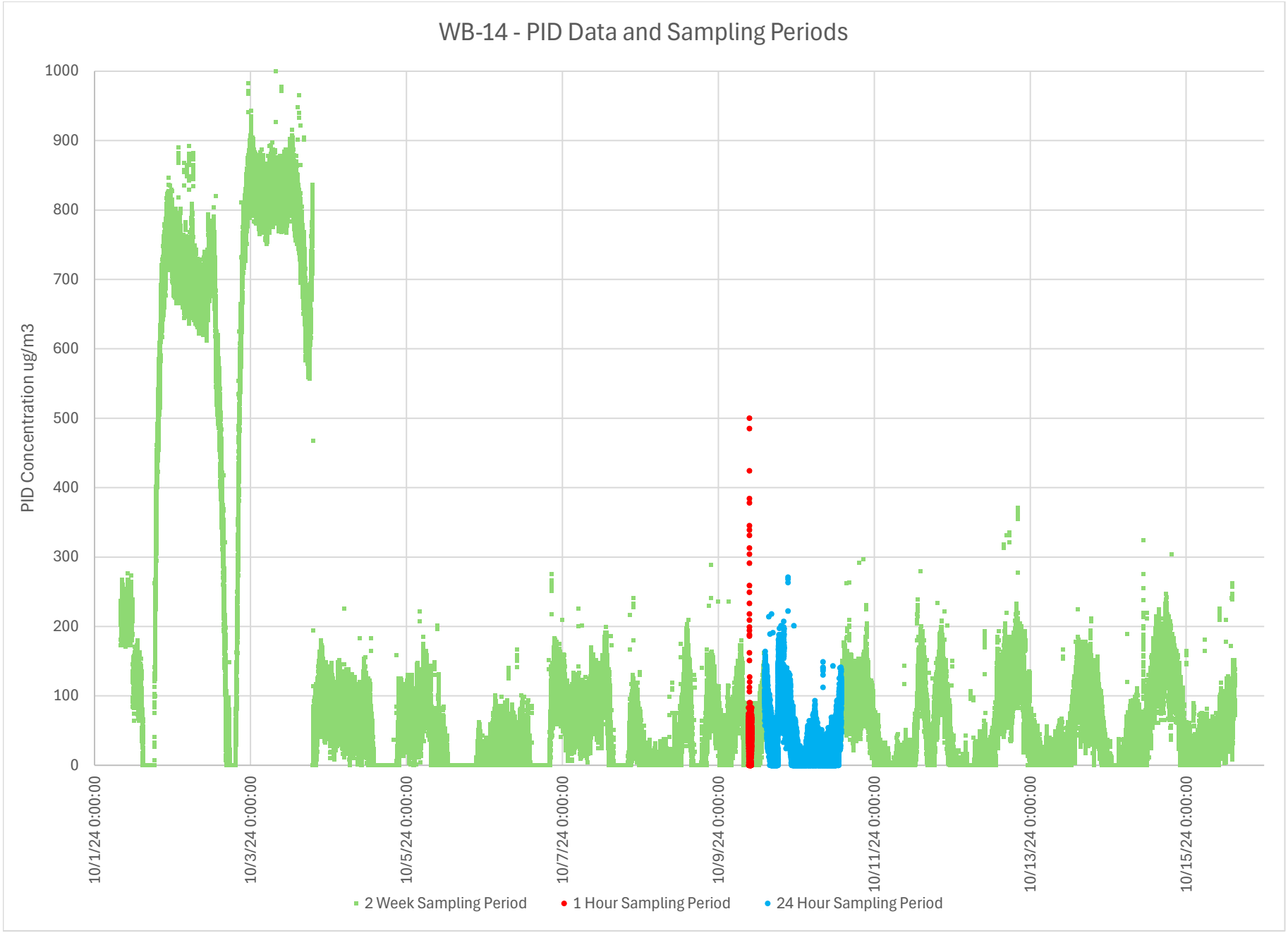
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 14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700
600
500
400
300
200
100
0
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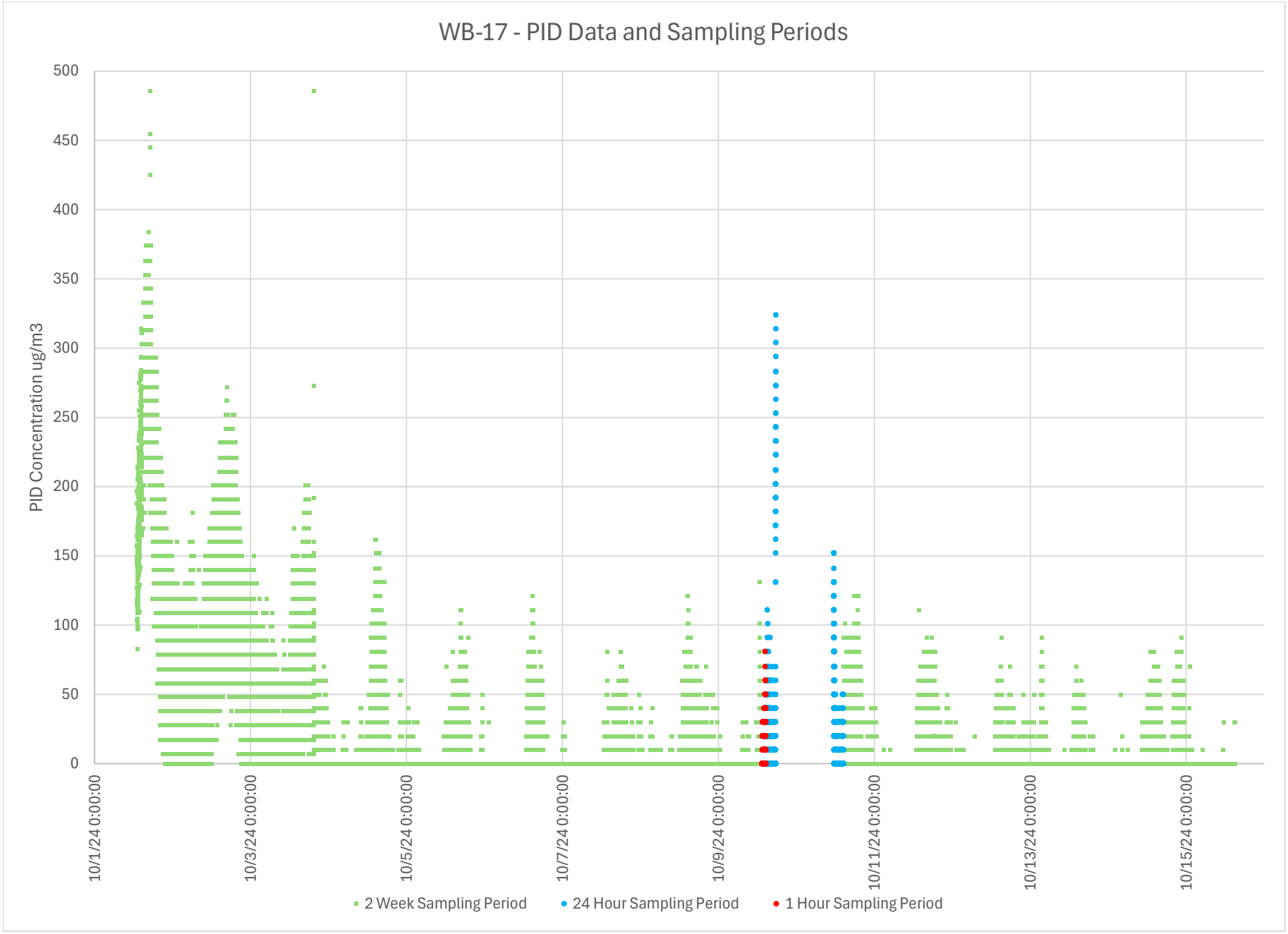
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
1 Hour Sampling Period
24 Hour Sampling Period

CHART 15


WB-17 - PID Data and Sampling Periods
PID Concentration ug/m3
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450
400
350
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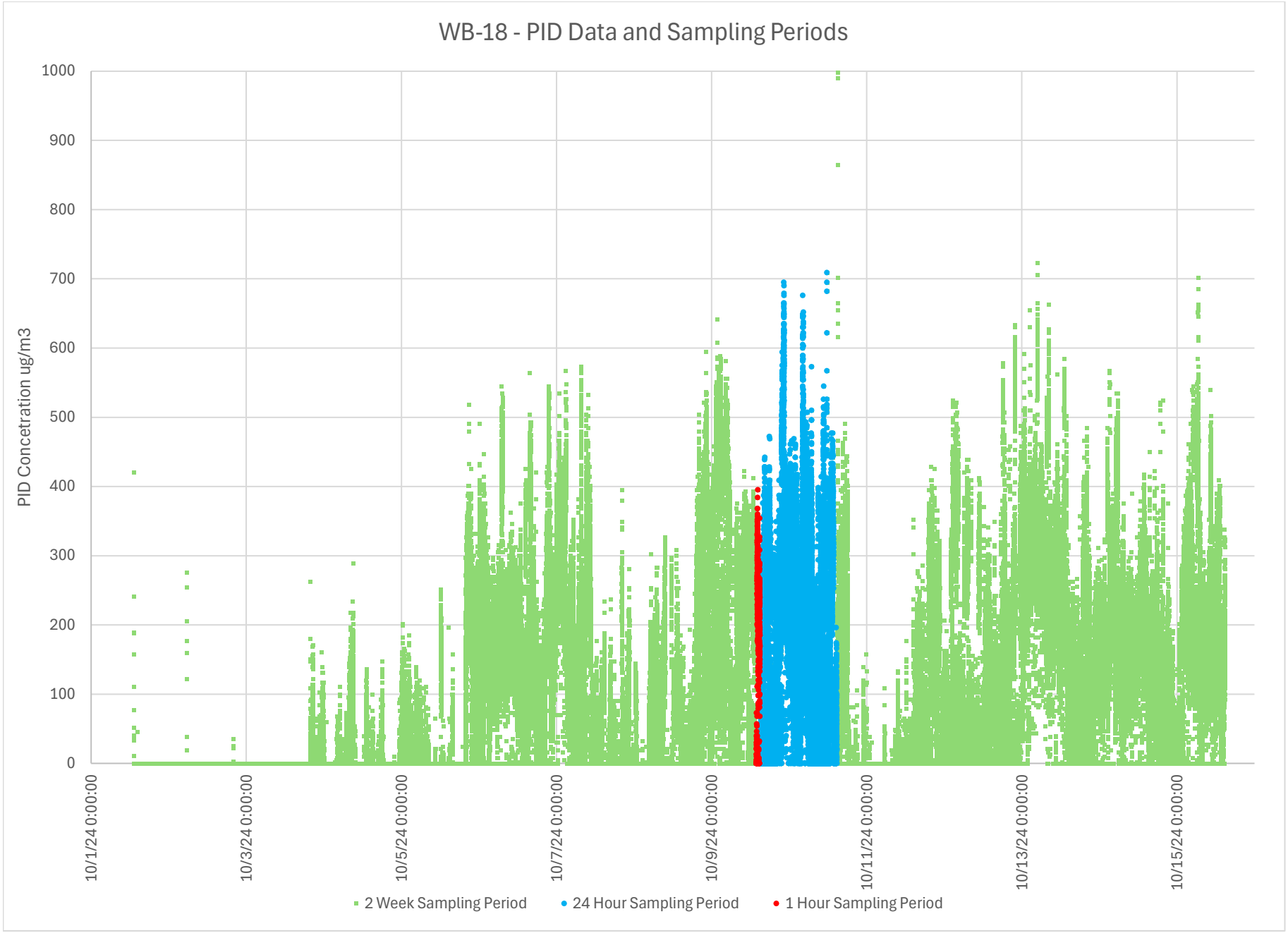
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 16


WB-18 - PID Data and Sampling Periods
PID Concetration ug/m3
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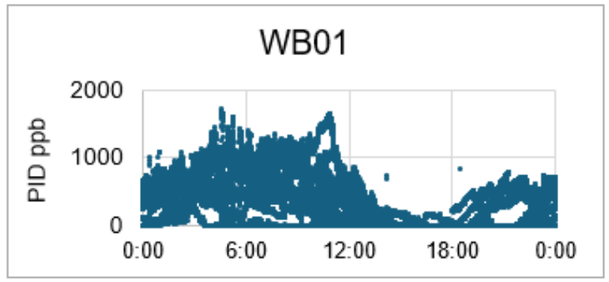
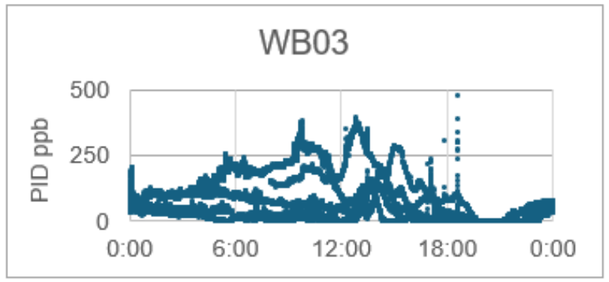
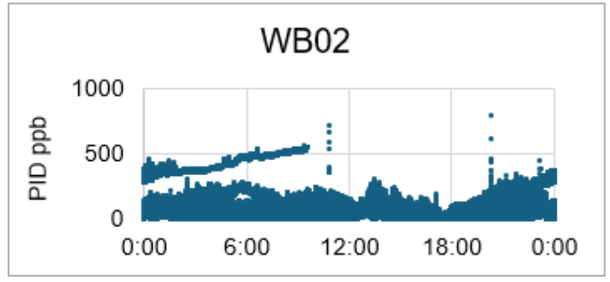
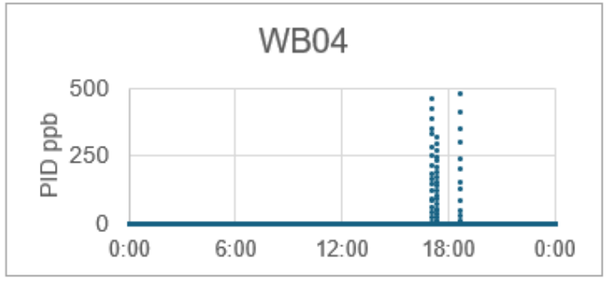
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

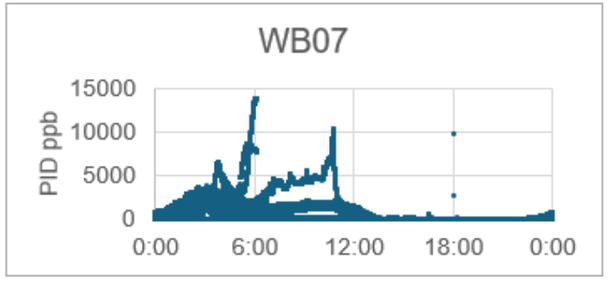
Chart 19 - PID Measurements vs 24 Hour Day - Arranged by Pattern - Oct 1 0800 - Oct 15 1500

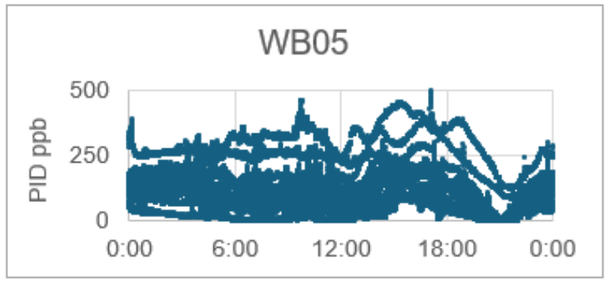


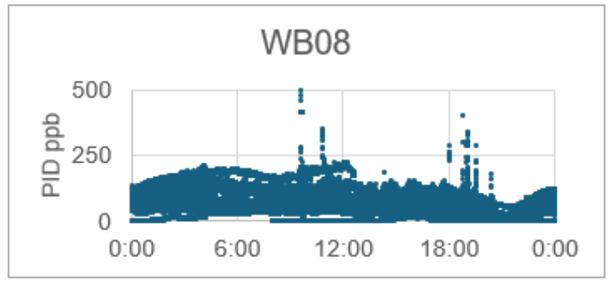


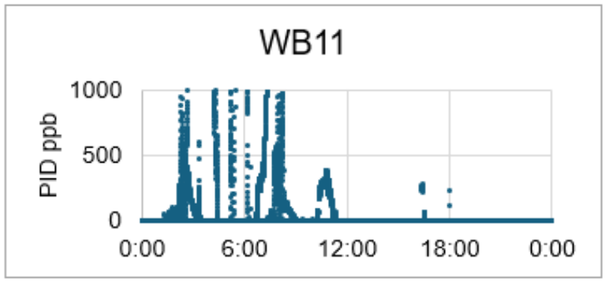


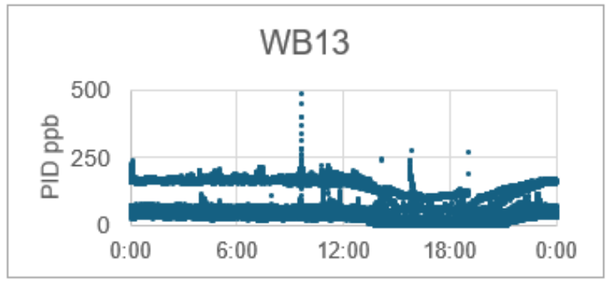


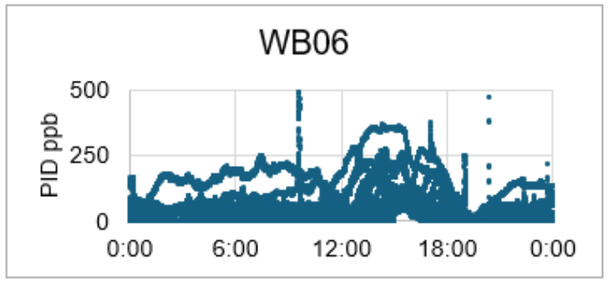


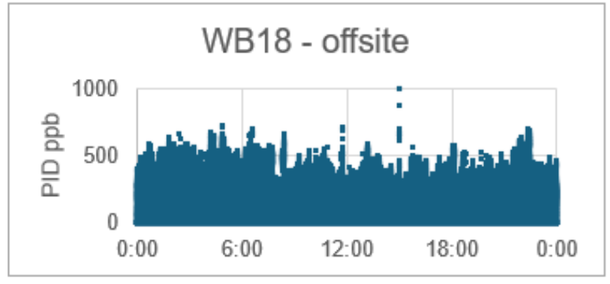


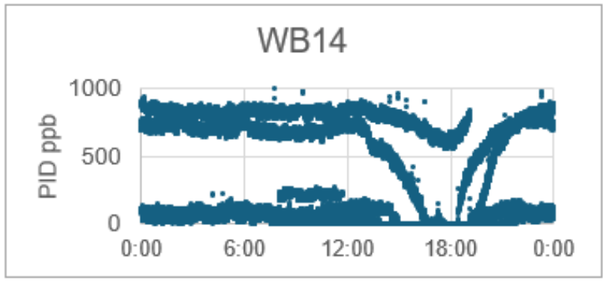


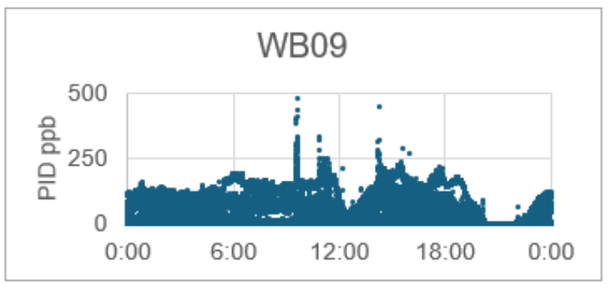


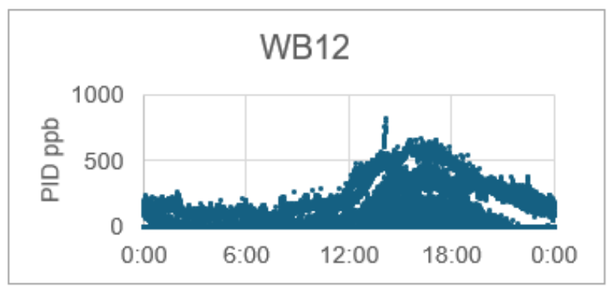


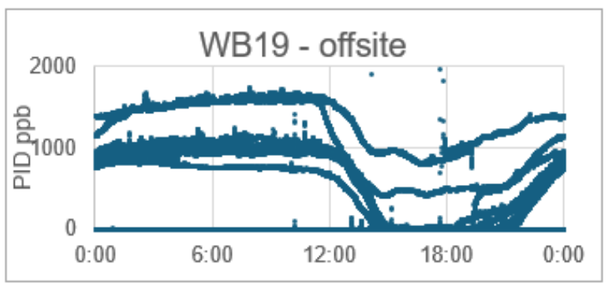


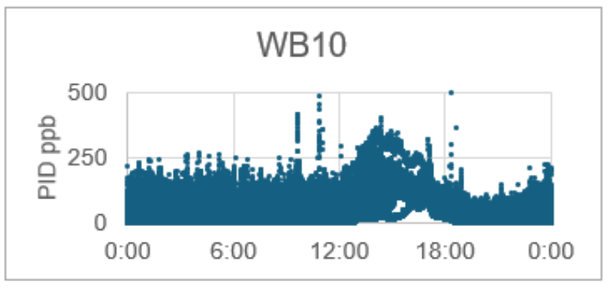












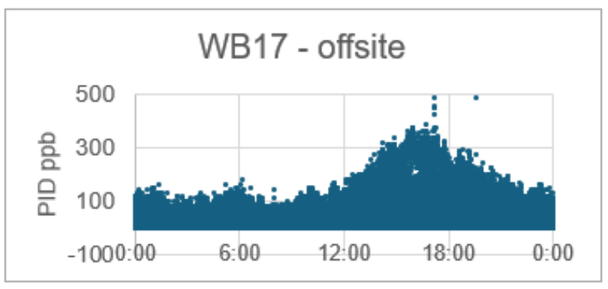
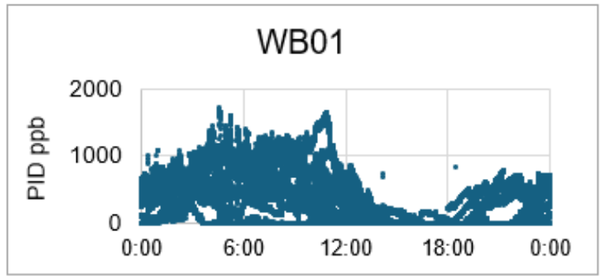
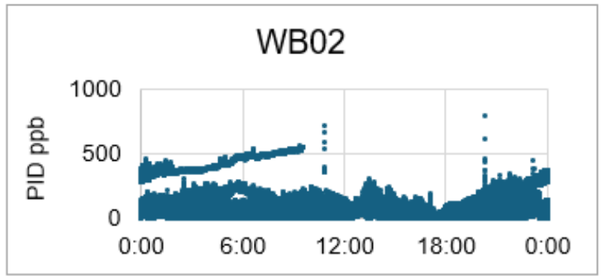
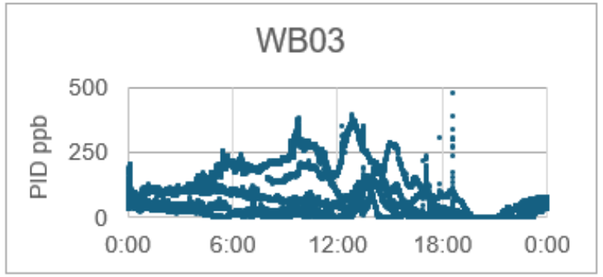
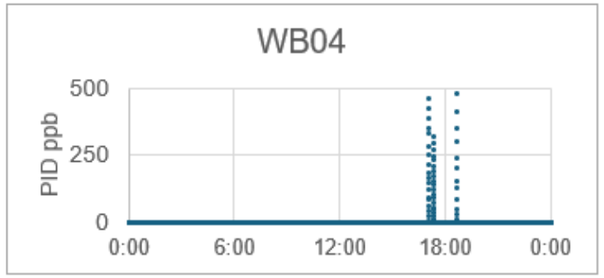


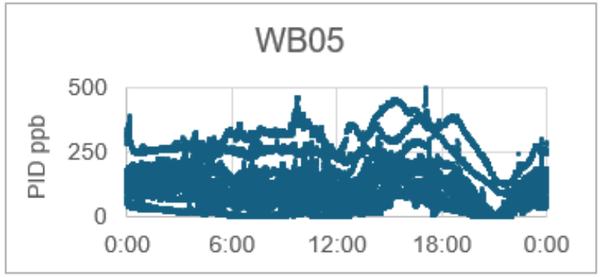
Chart 18 - PID Measurements vs 24 Hour Day - Oct 1 0800 - Oct 15 1500

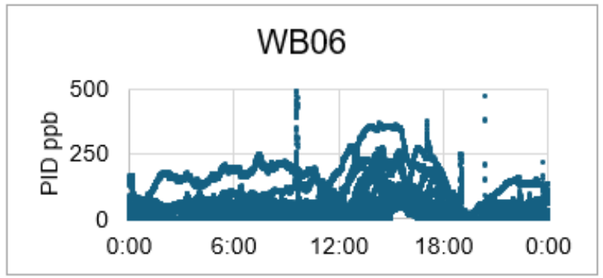


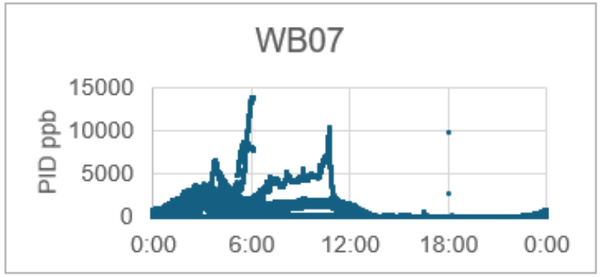


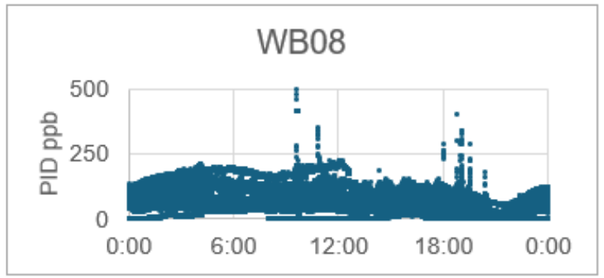


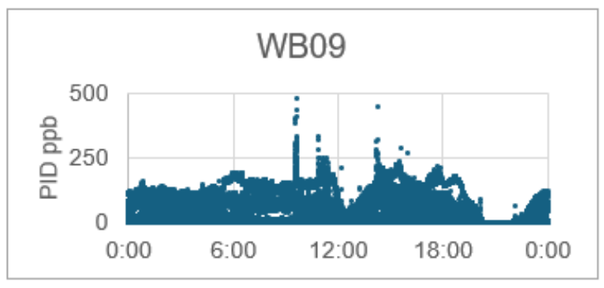


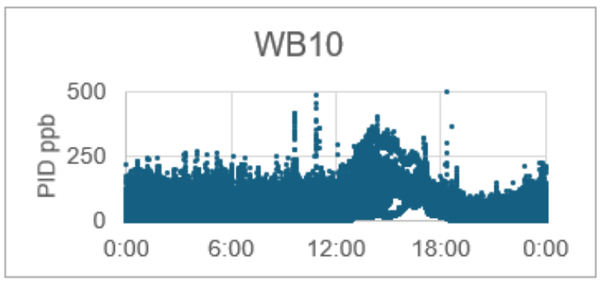


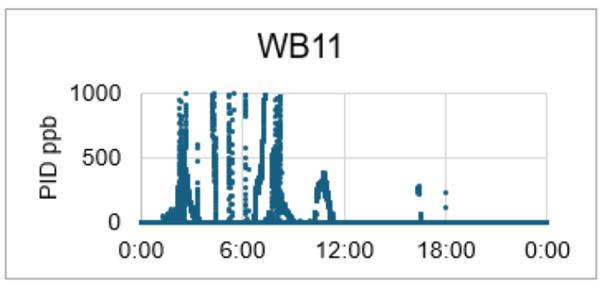


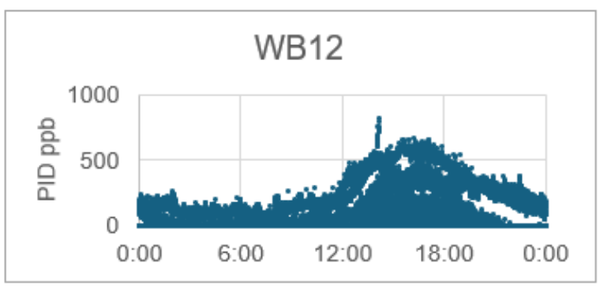


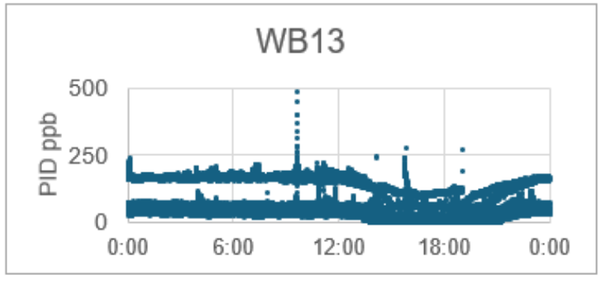


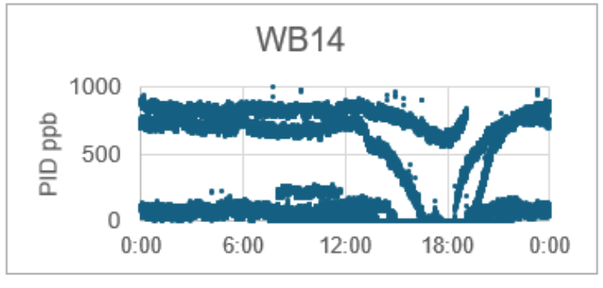


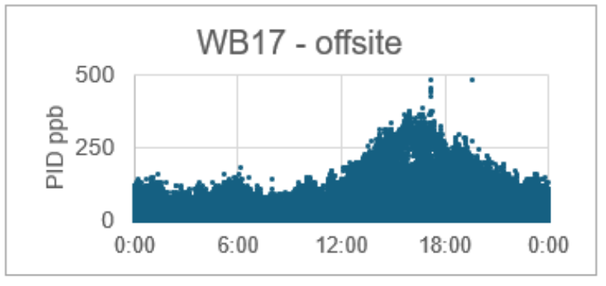


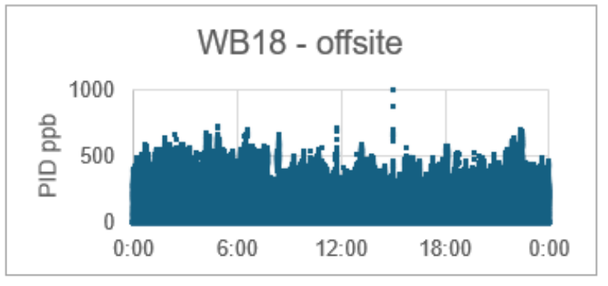












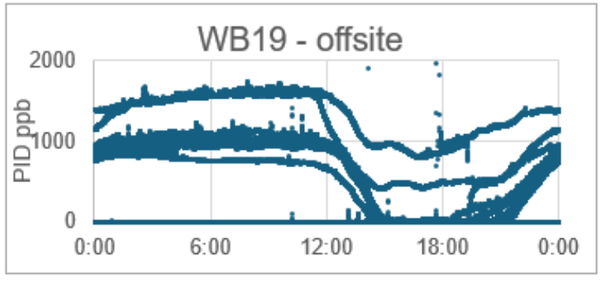
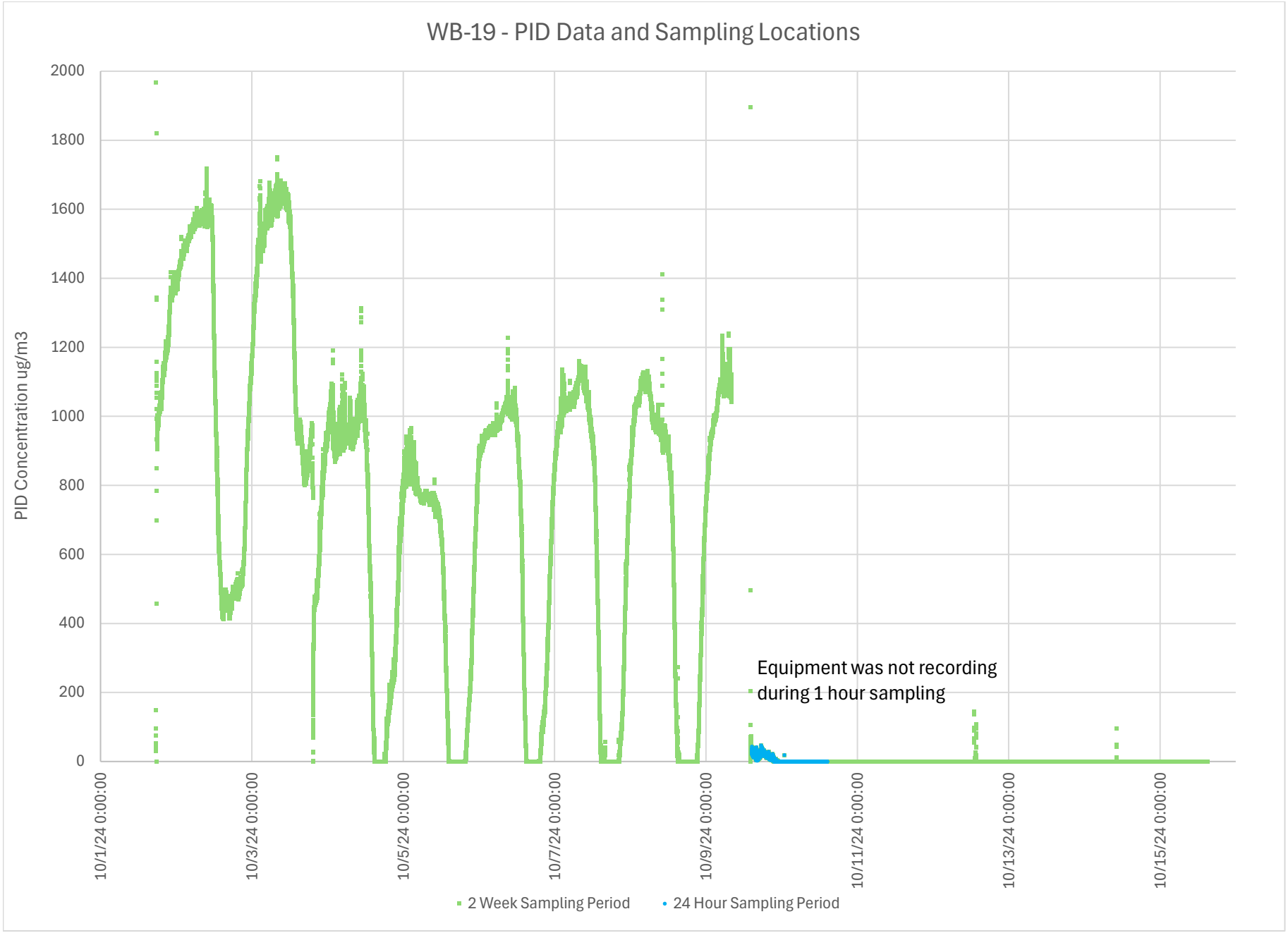


CHART 17


WB-19 - PID Data and Sampling Locations
PID Concentration ug/m3
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
Equipment was not recording during 1 hour sampling
2 Week Sampling Period
24 Hour Sampling Period

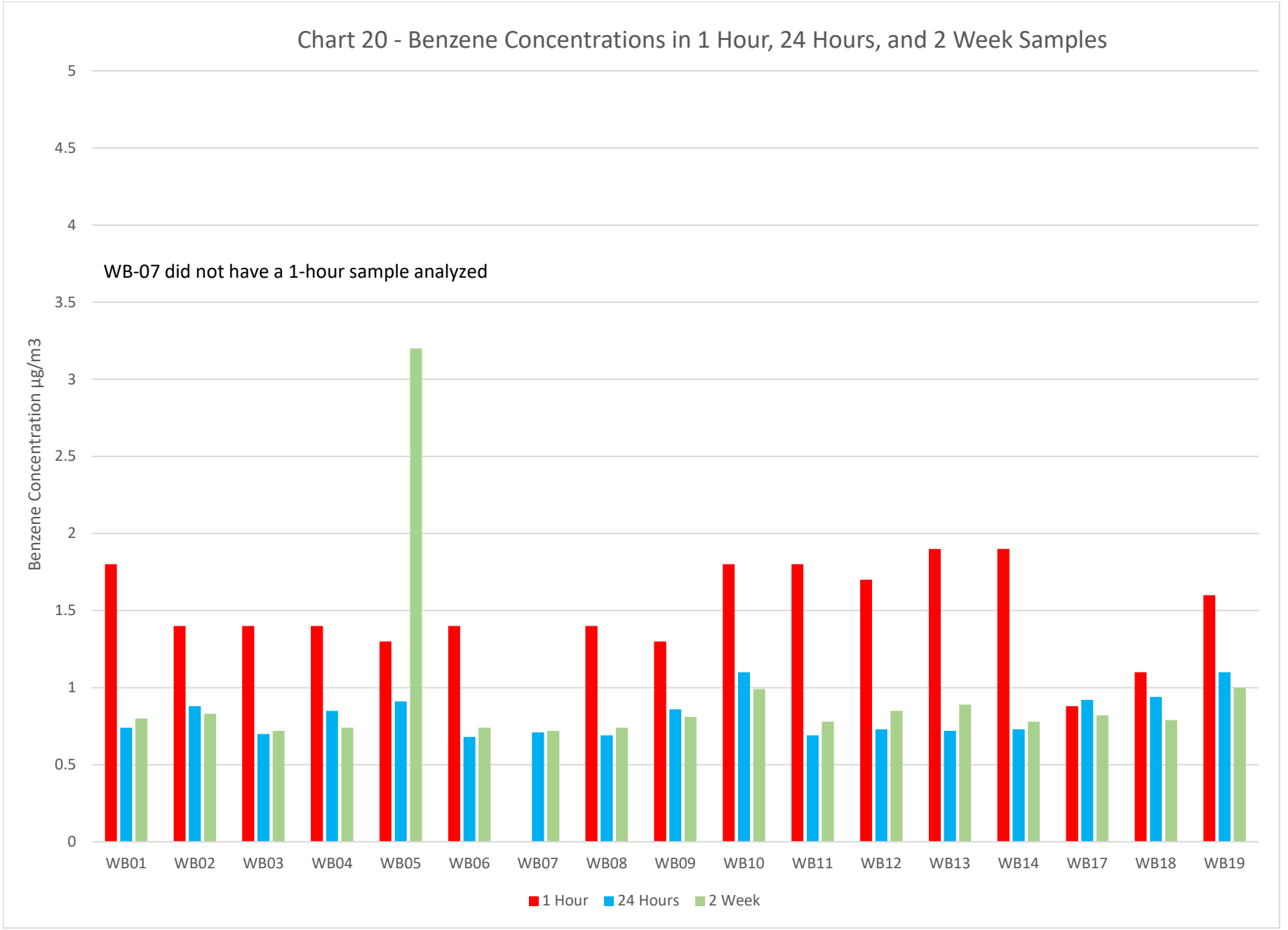


Chart 20 - Benzene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
WB-07 did not have a 1-hour sample analyzed
Benzene Concentration µg/m3
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

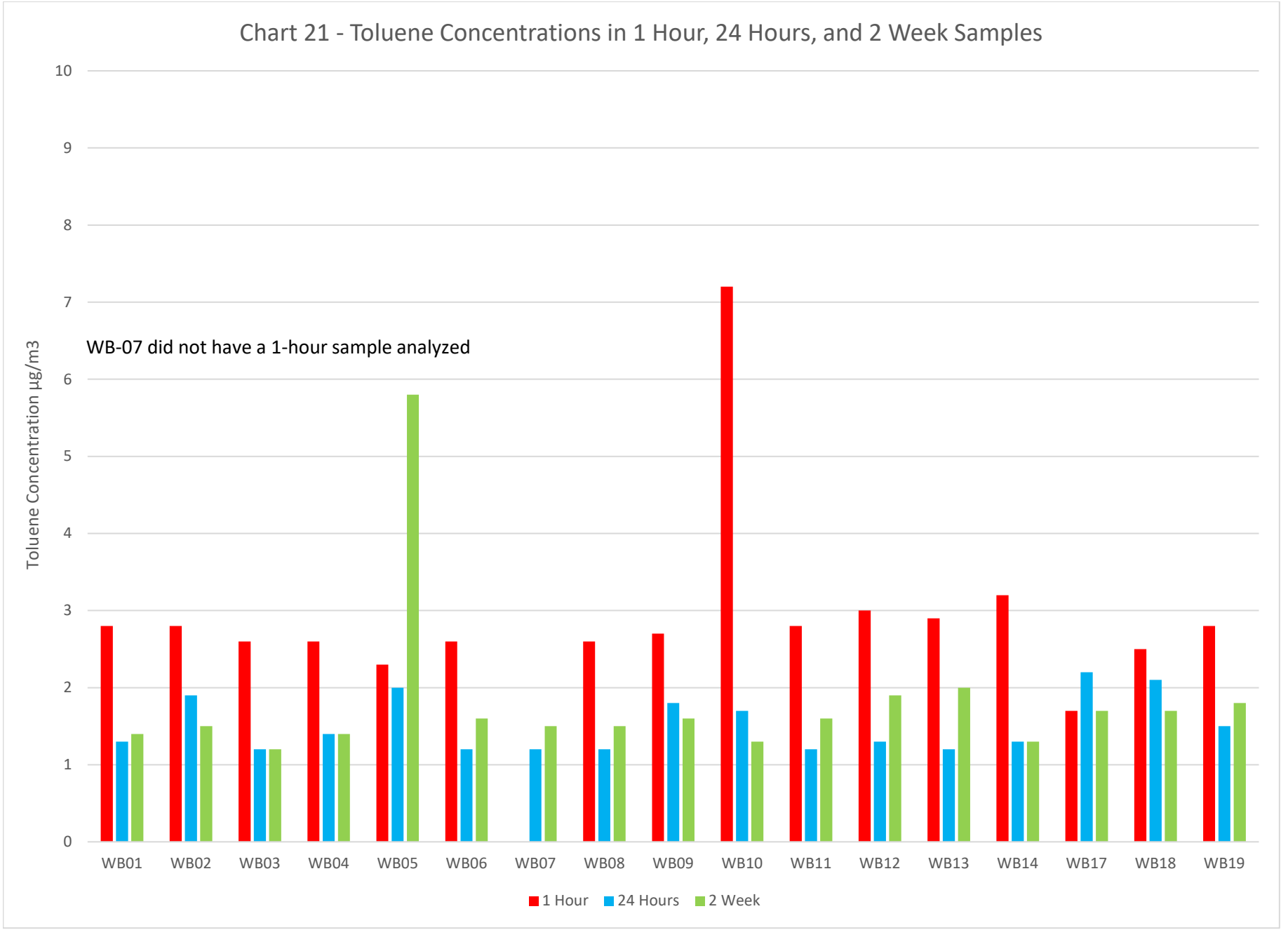


Chart 21 - Toluene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
Toluene Concentration µg/m3
10
9
8
7
6
5
4
3
2
1
0
WB-07 did not have a 1-hour sample analyzed
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

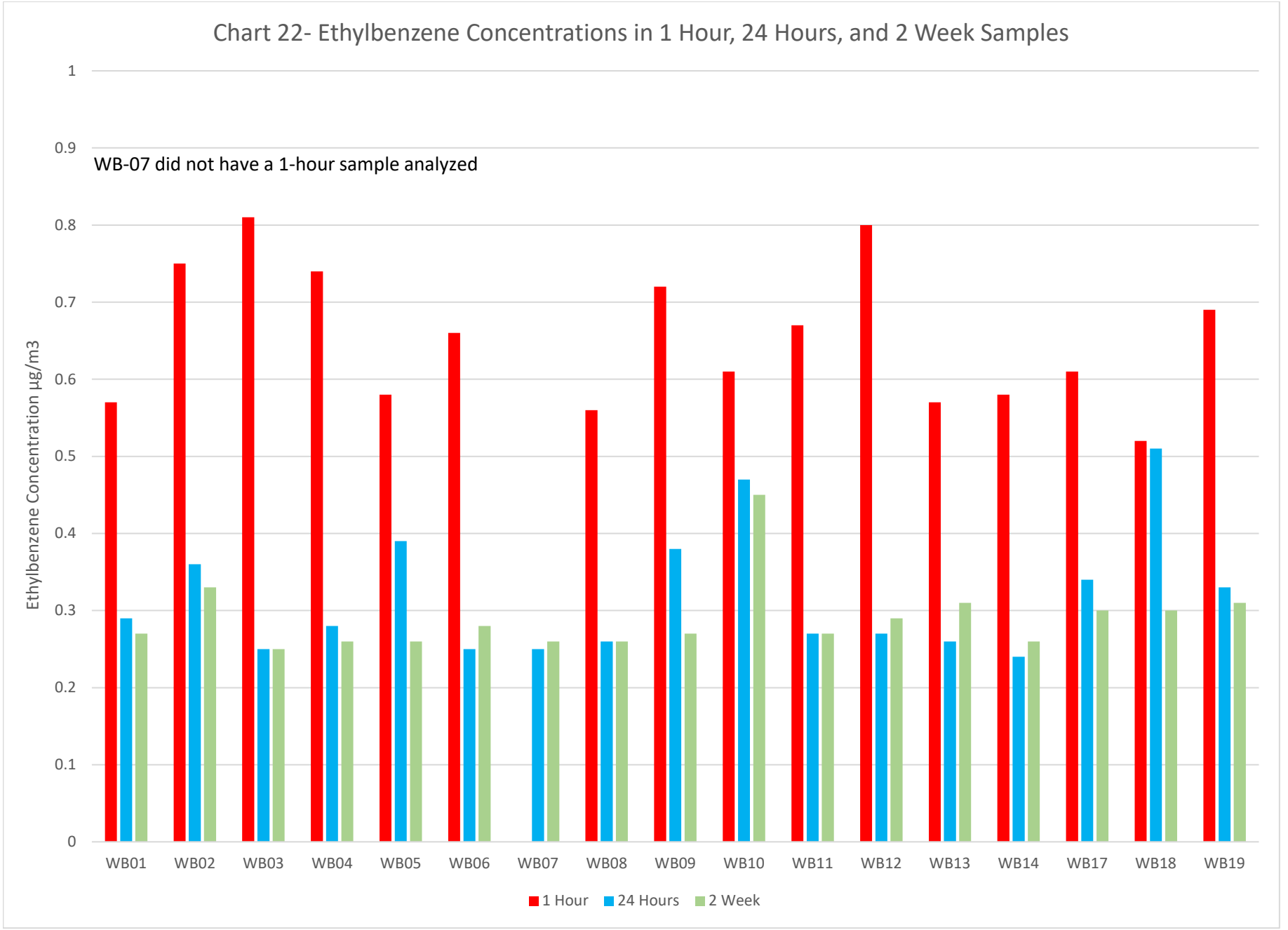


Chart 22- Ethylbenzene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
WB-07 did not have a 1-hour sample analyzed
Ethylbenzene Concentration µg/m3
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

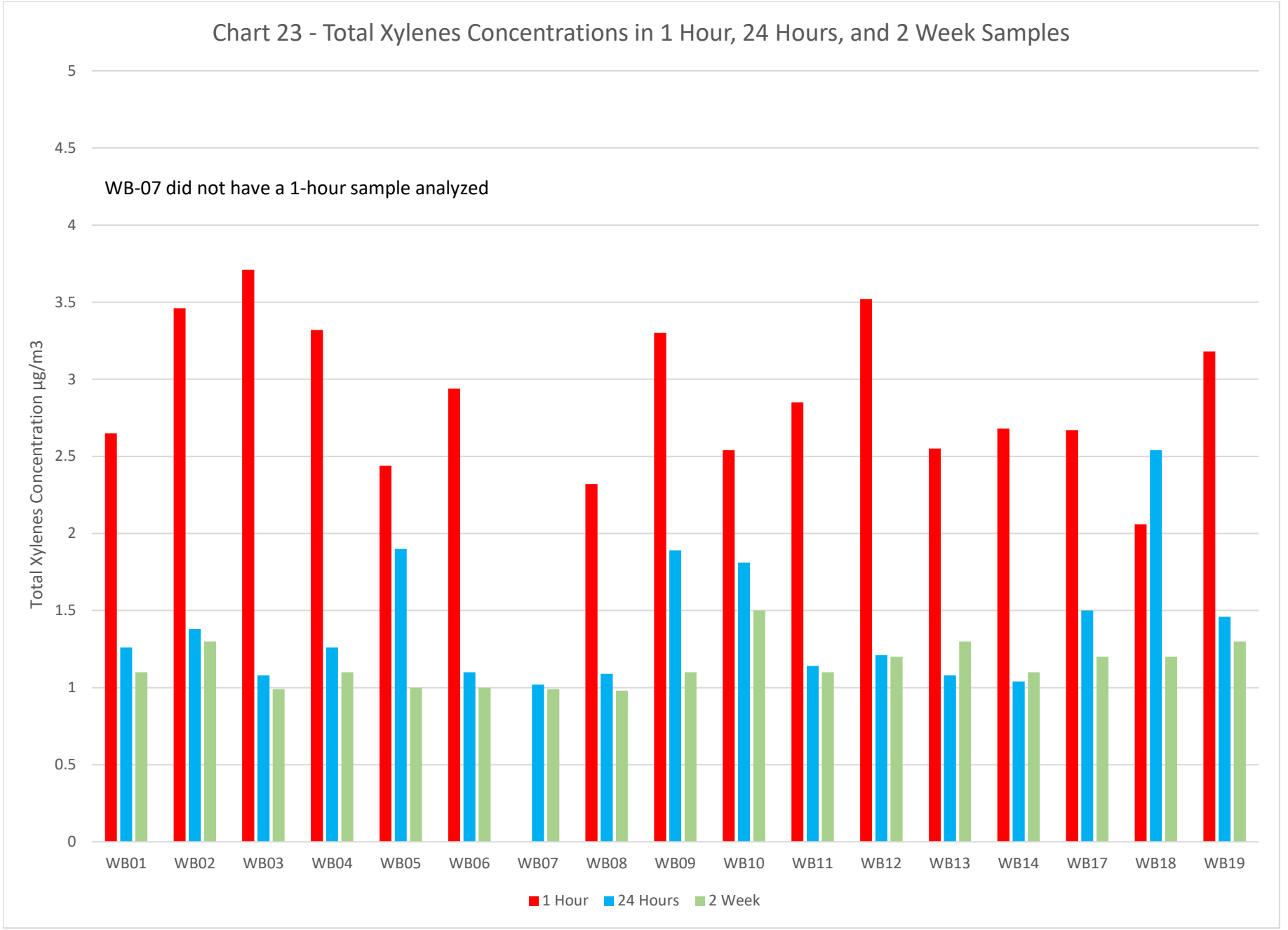


Chart 23 - Total Xylenes Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
WB-07 did not have a 1-hour sample analyzed
Total Xylenes Concentration µg/m3
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

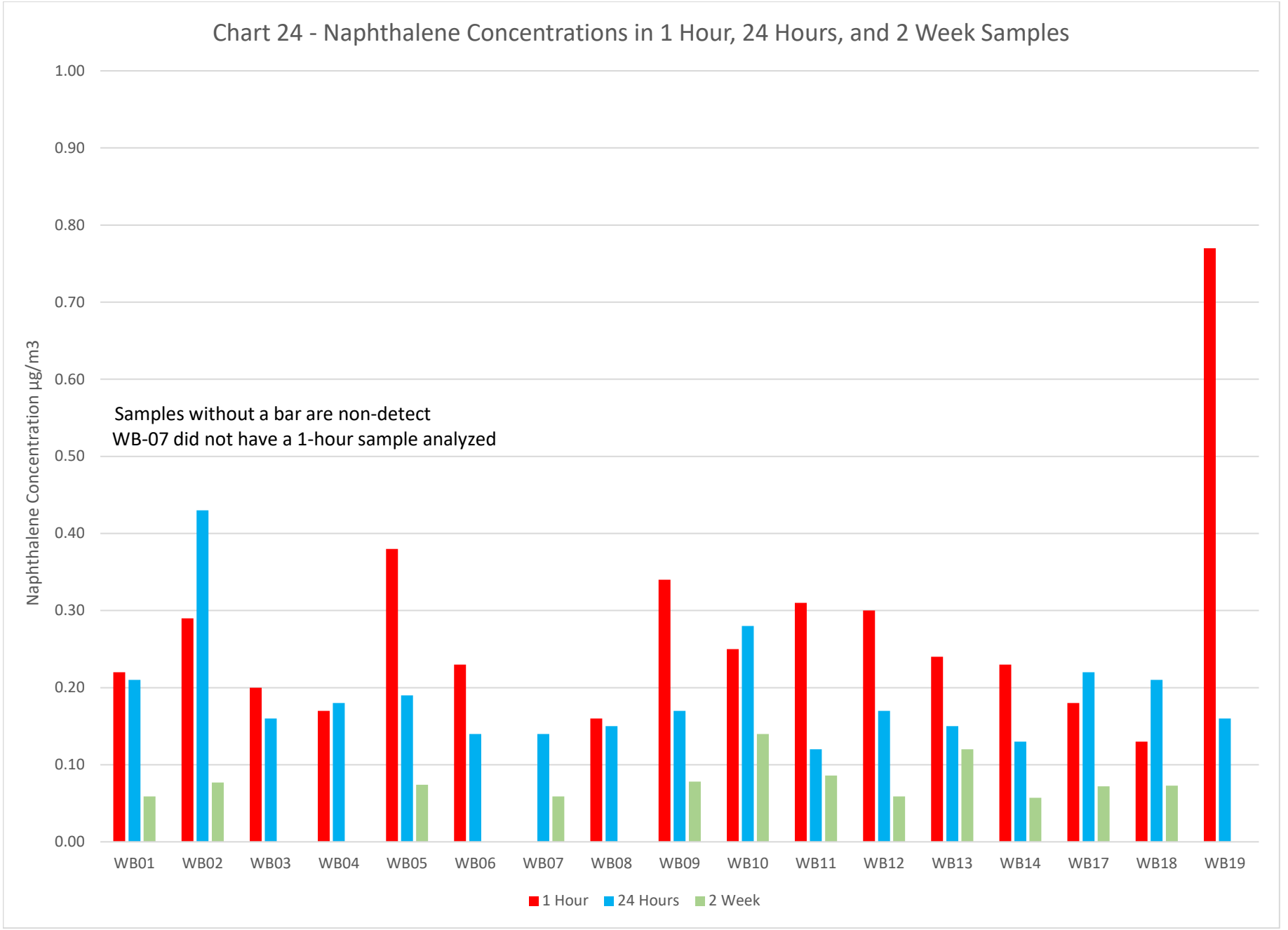


Chart 24 - Naphthalene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
Naphthalene Concentration µg/m3
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Samples without a bar are non-detect
WB-07 did not have a 1-hour sample analyzed
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

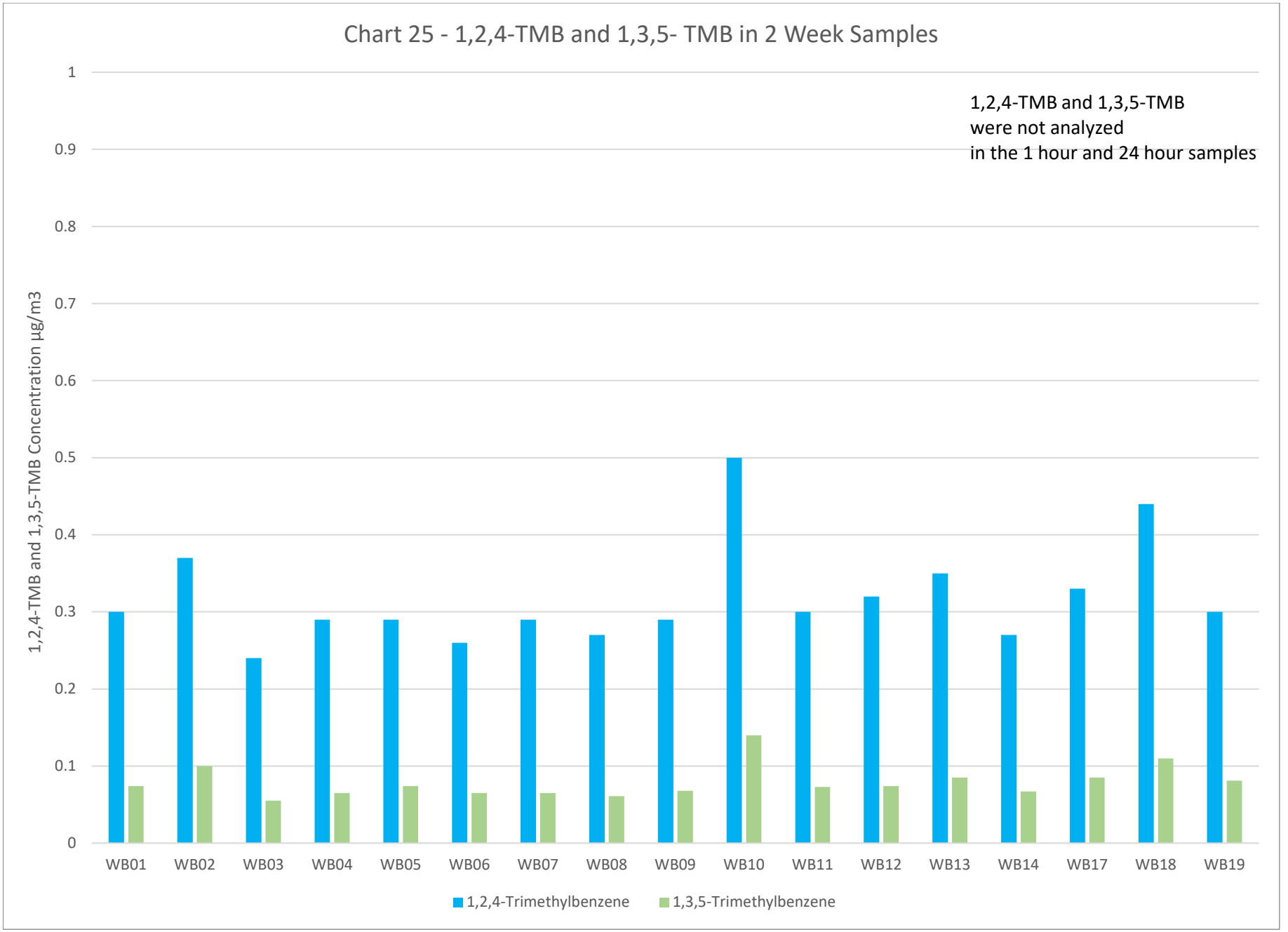
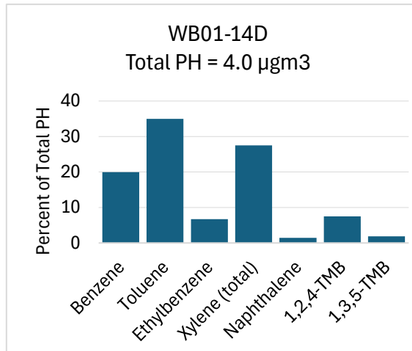
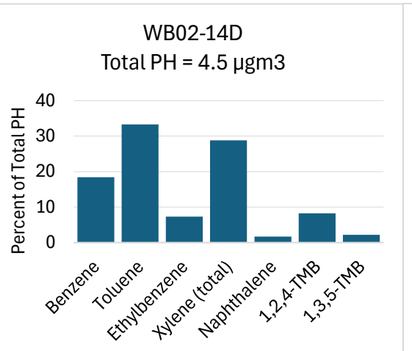
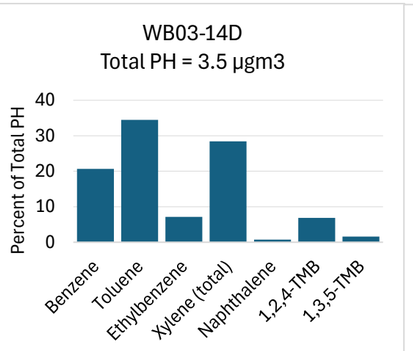


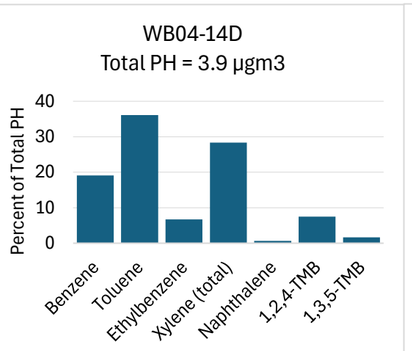
Chart 25 - 1,2,4-TMB and 1,3,5- TMB in 2 Week Samples
1,2,4-TMB and 1,3,5-TMB were not analyzed in the 1 hour and 24 hour samples
1,2,4-TMB and 1,3,5-TMB Concentration µg/m3
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene

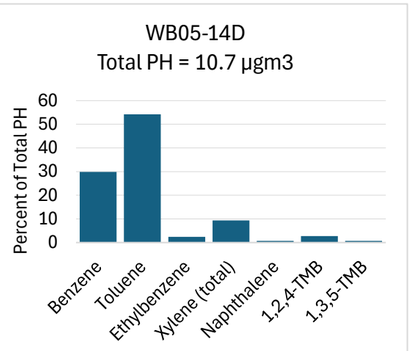
Chart 26 - Petroleum Fingerprints

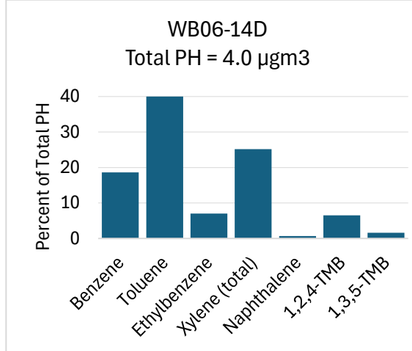


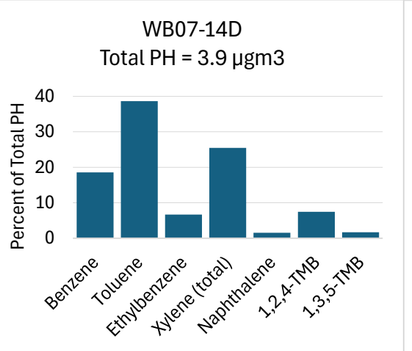


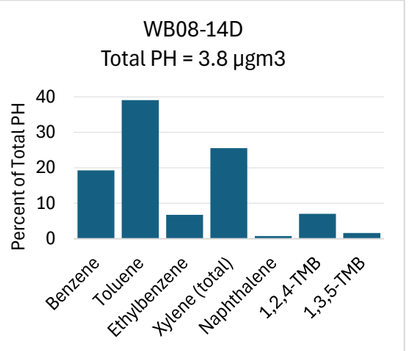


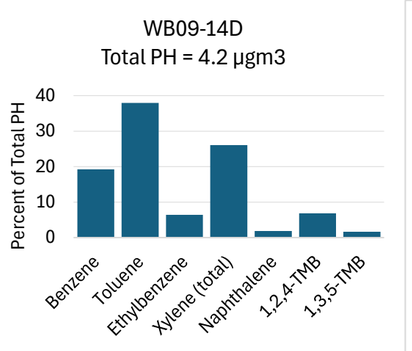


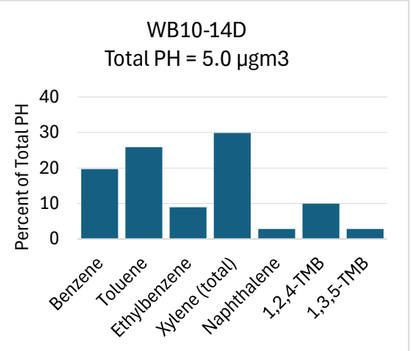


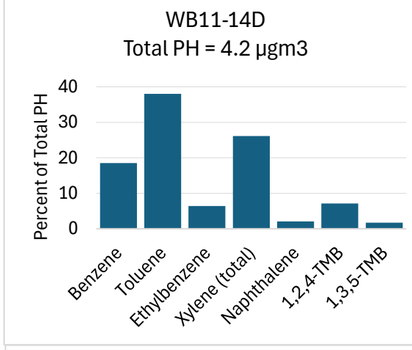


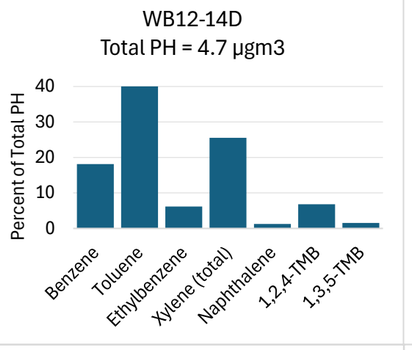


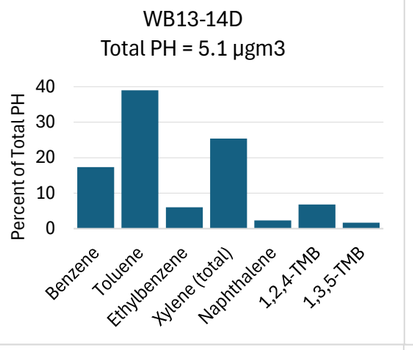


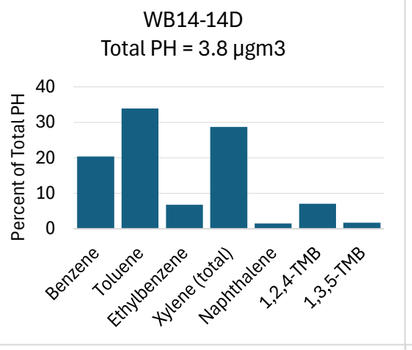


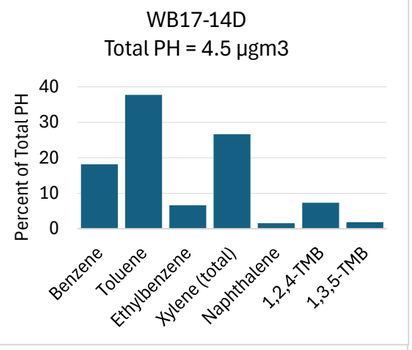


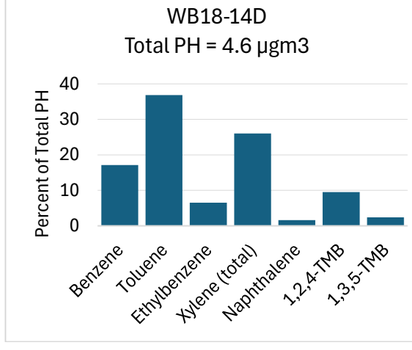


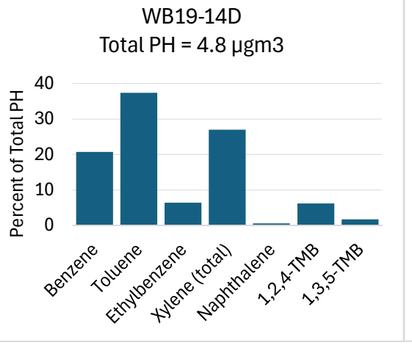


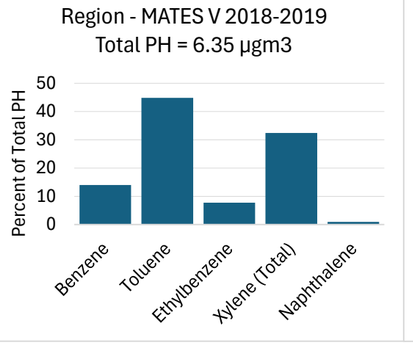


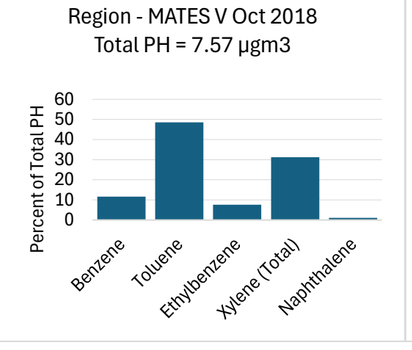












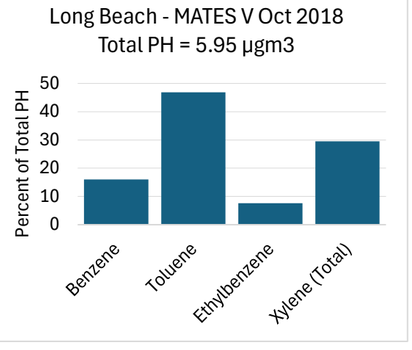


Chart 27 WB15 Windrose Diagram

Signal Hill

WB15/10.1.2024 - 10.15.2024

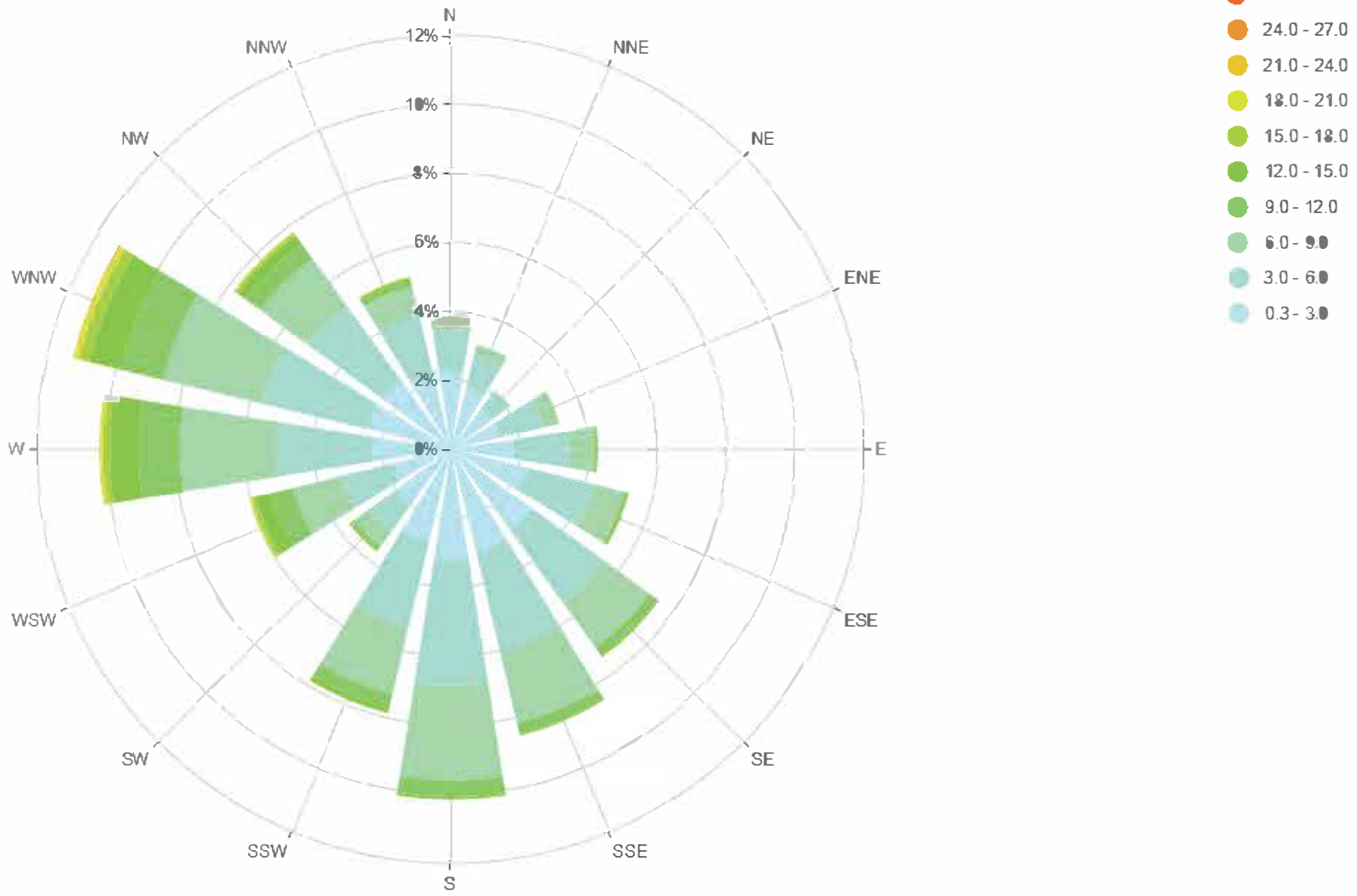


Chart 28 WB16 Windrose Diagram

Signal Hill

WB16 - Weather Station 10 1.2024 - 10 15.2024

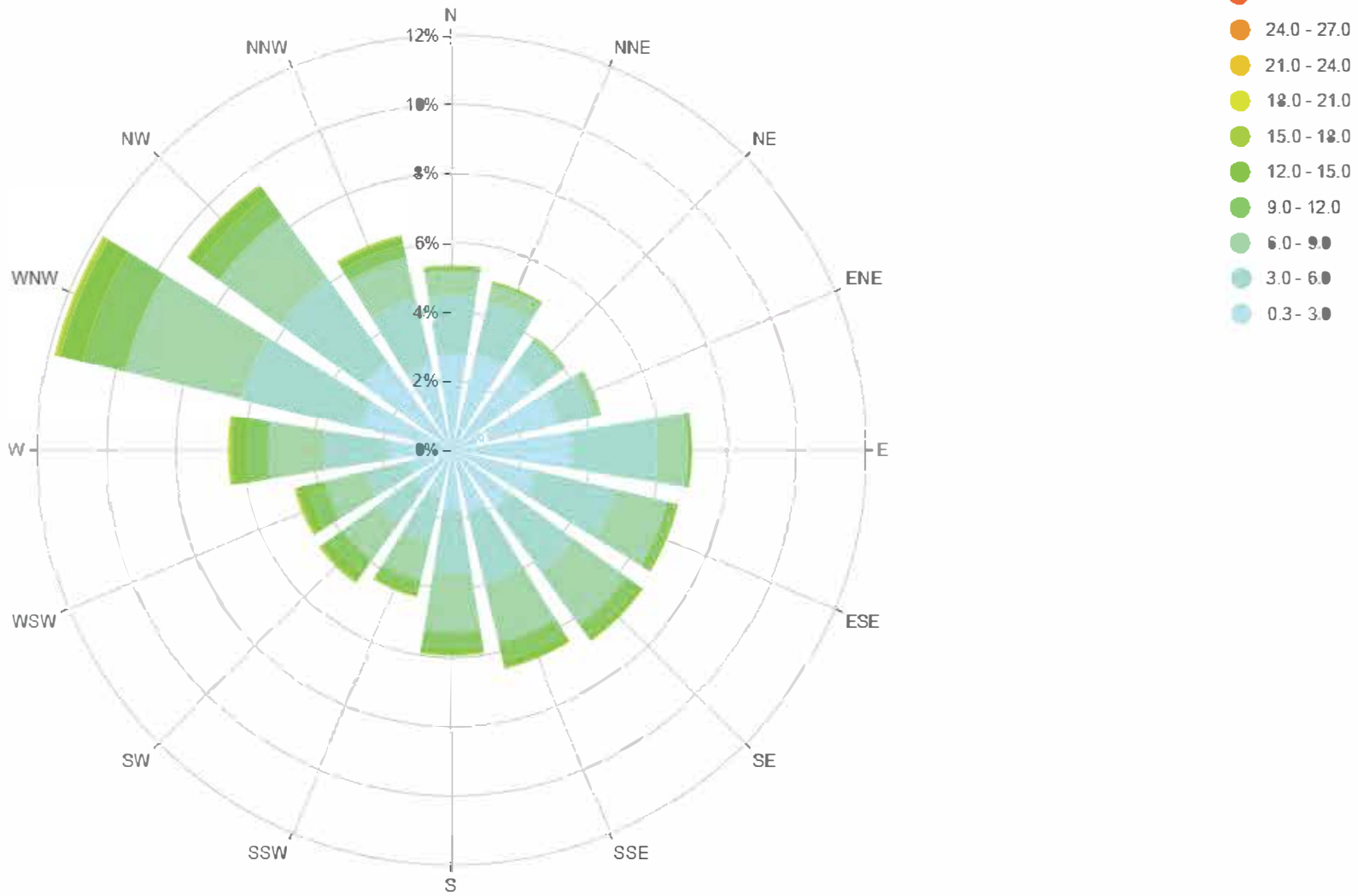
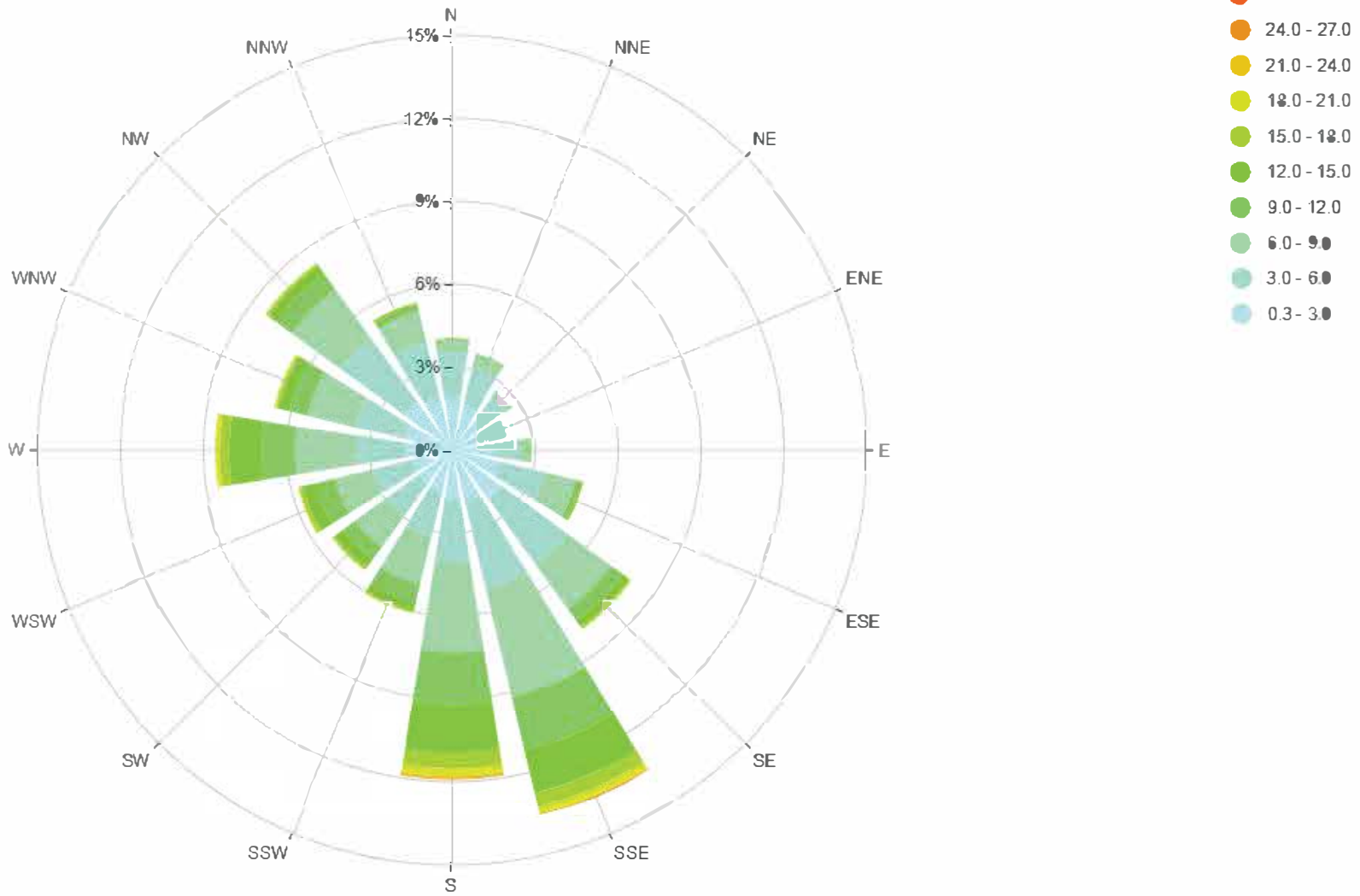
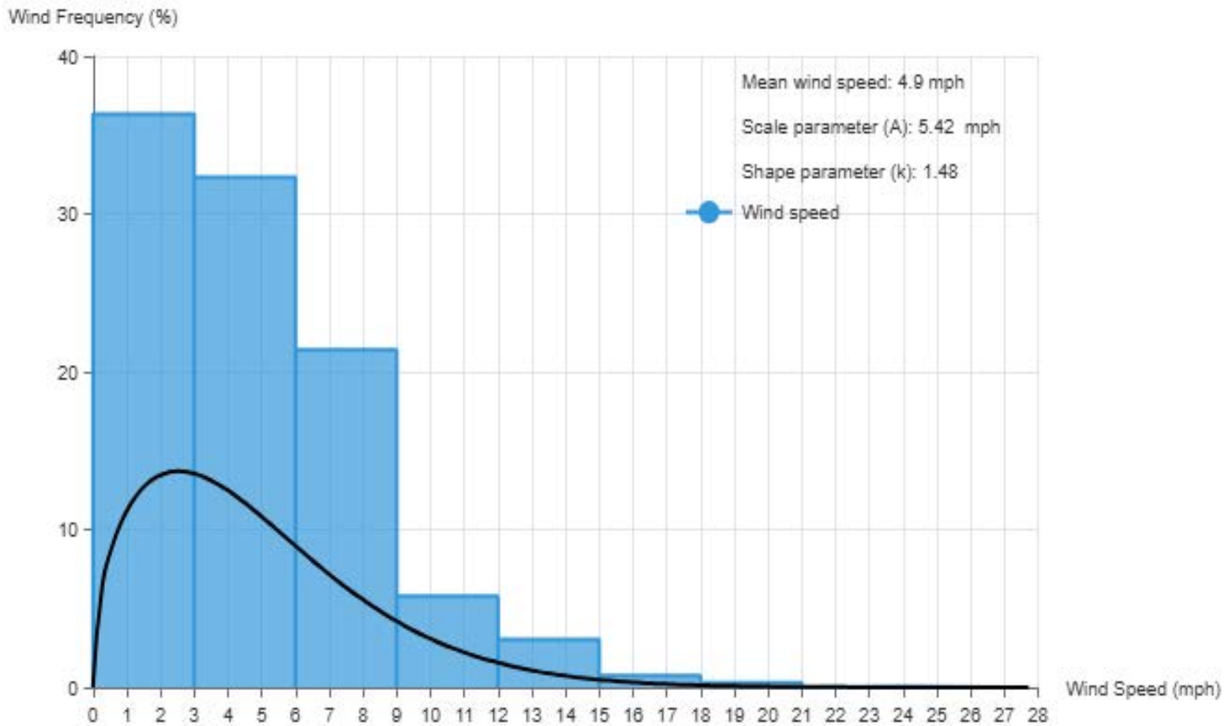


Chart 29 WB17 Windrose Diagram

Signal Hill

WB17 - Weather Station 10.1.2024 - 10.15.2024





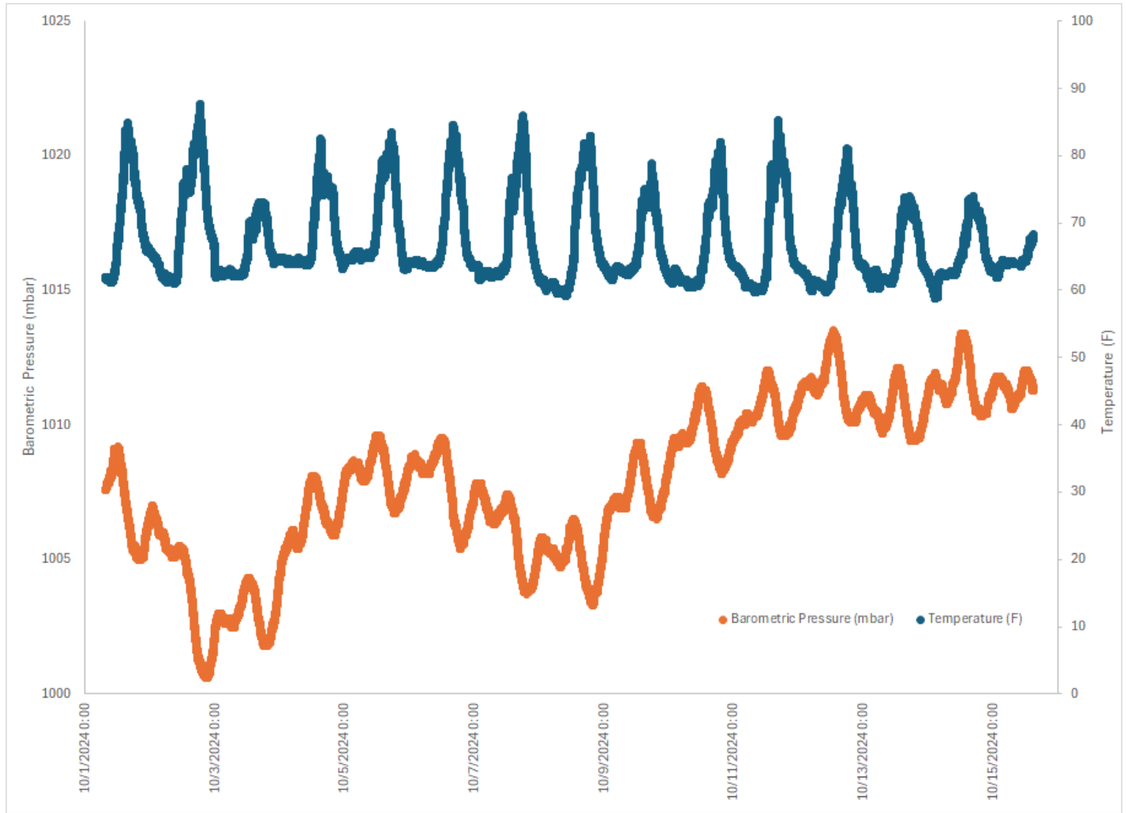
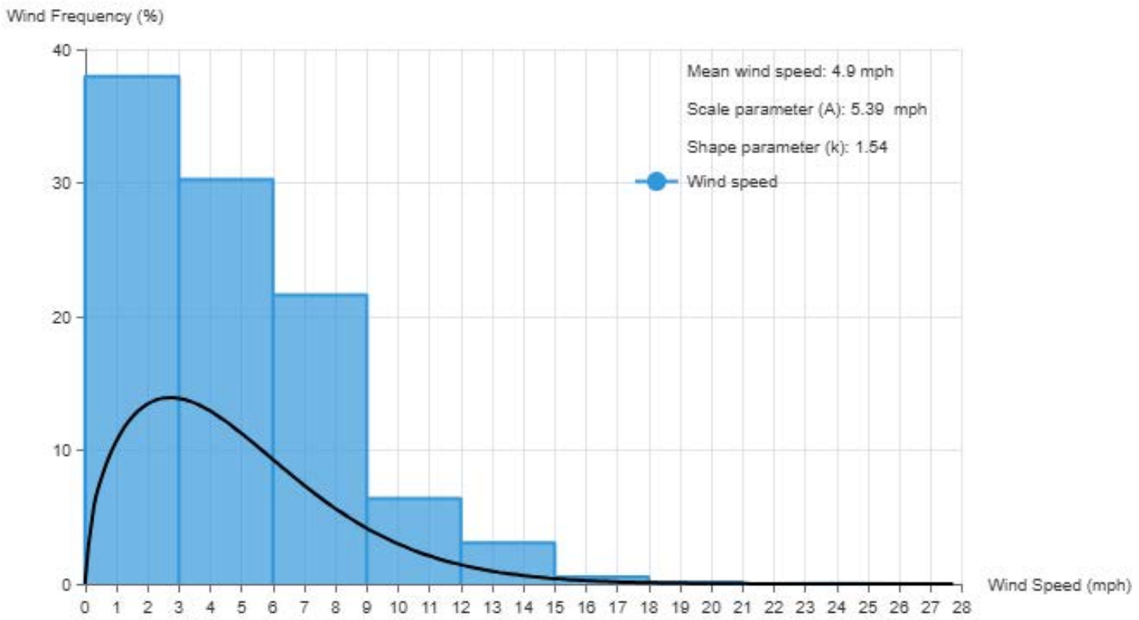


Chart 30 - WB15 Windspeed, Temperature, and Barometric Pressure



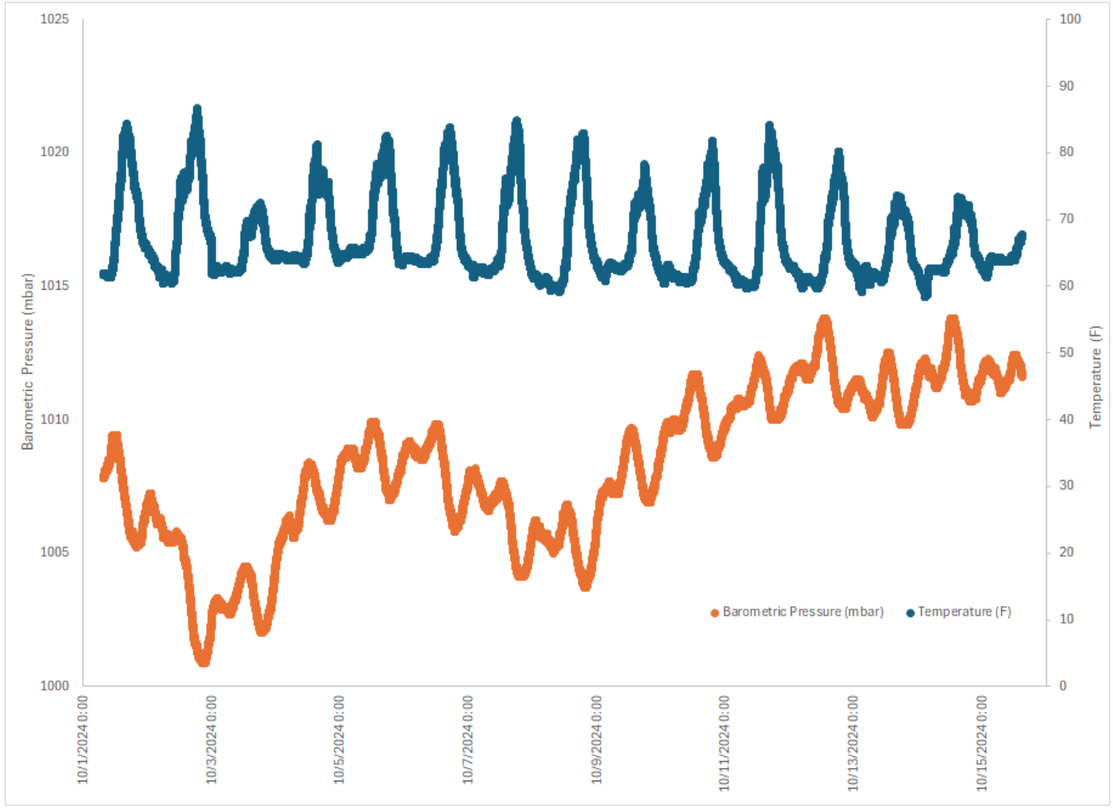
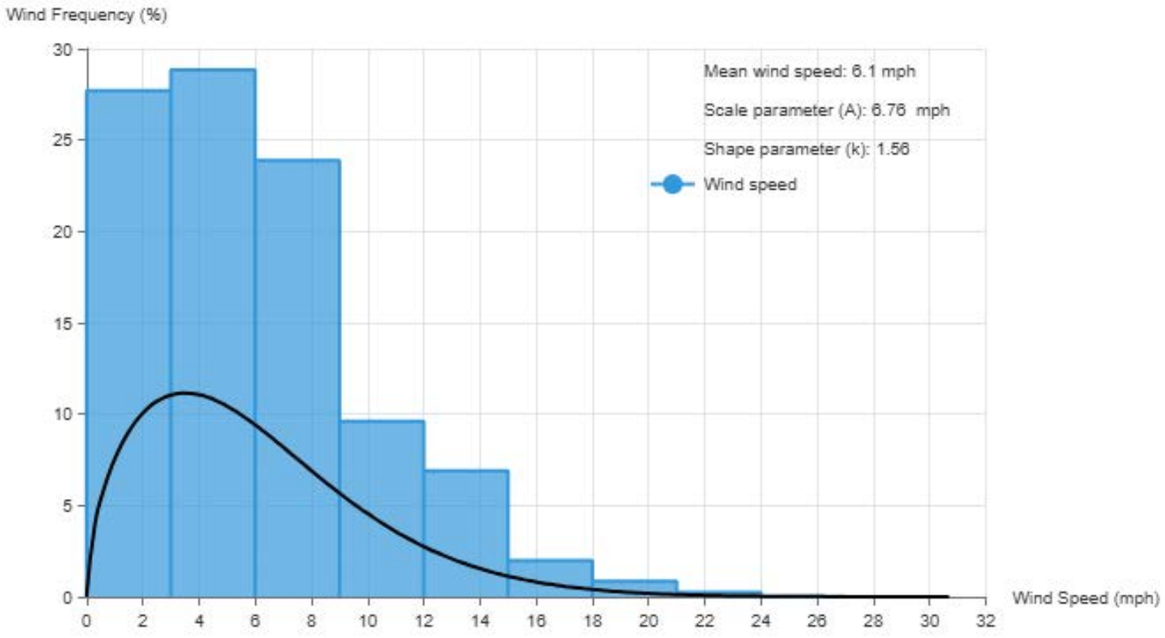


Chart 31 - WB16 Windspeed, Temperature, and Barometric Pressure



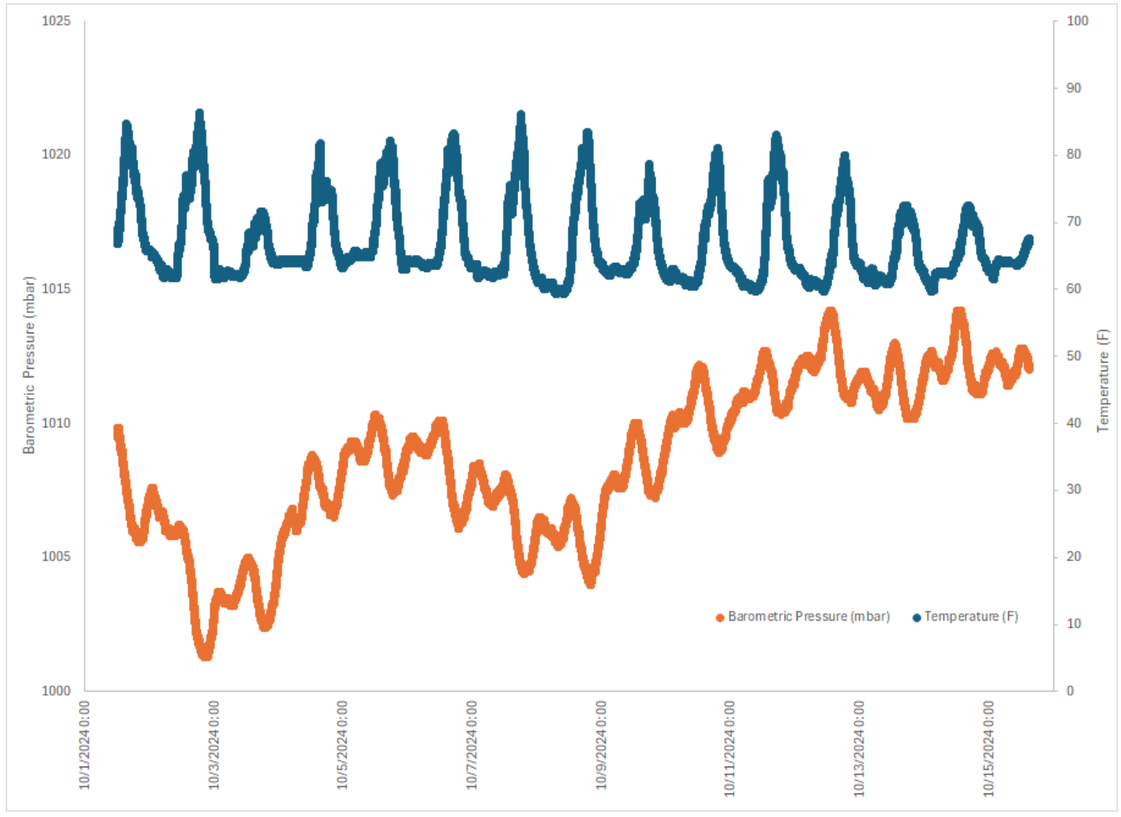


Chart 32 - WB17 Windspeed, Temperature, and Barometric Pressure

Chart 33
Comparison of Regional vs Walnut Bluff Benzene Cancer Risk
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

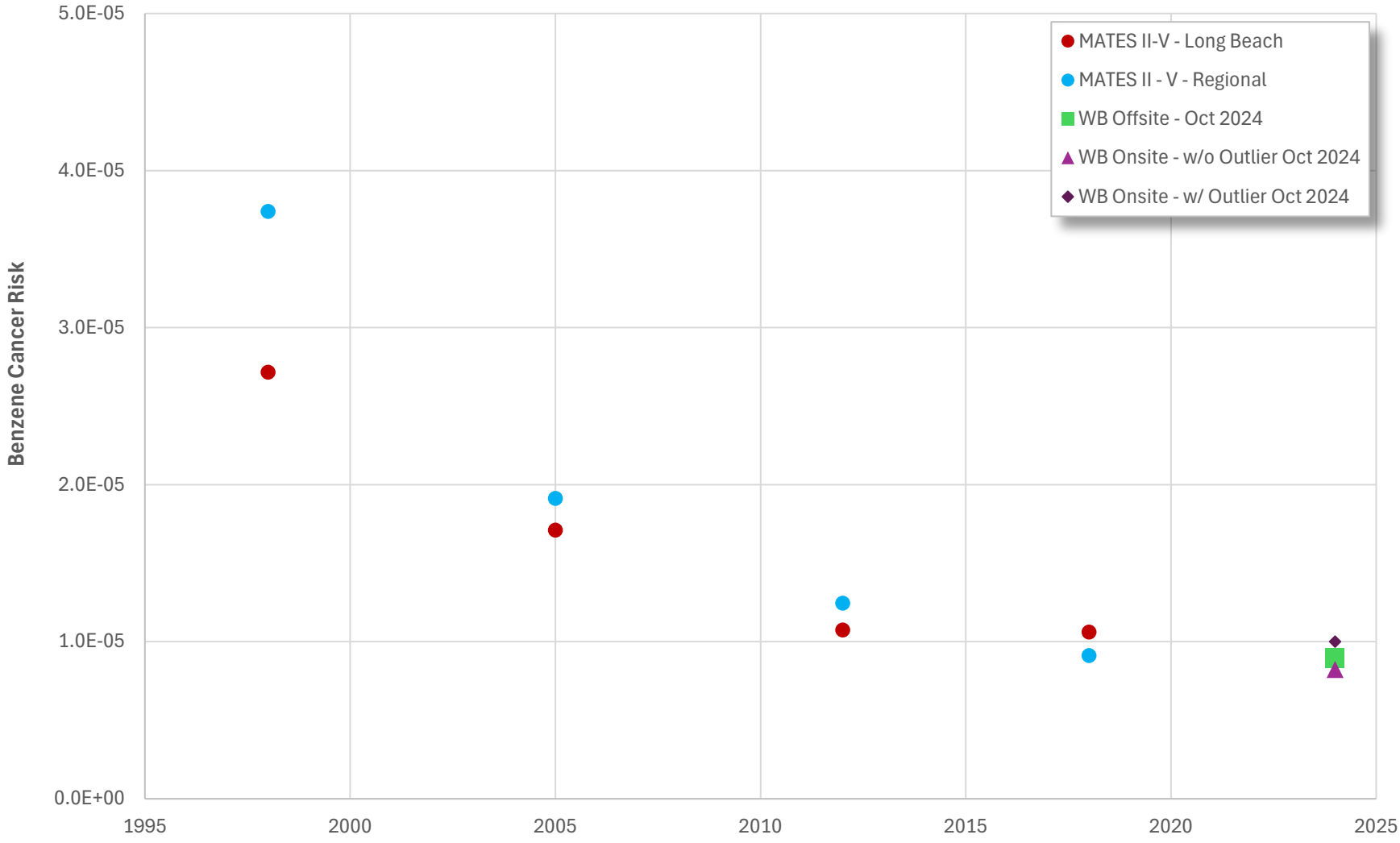


Chart 34
Comparison of Regional vs Walnut Bluff Toluene Noncancer Hazard Index
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

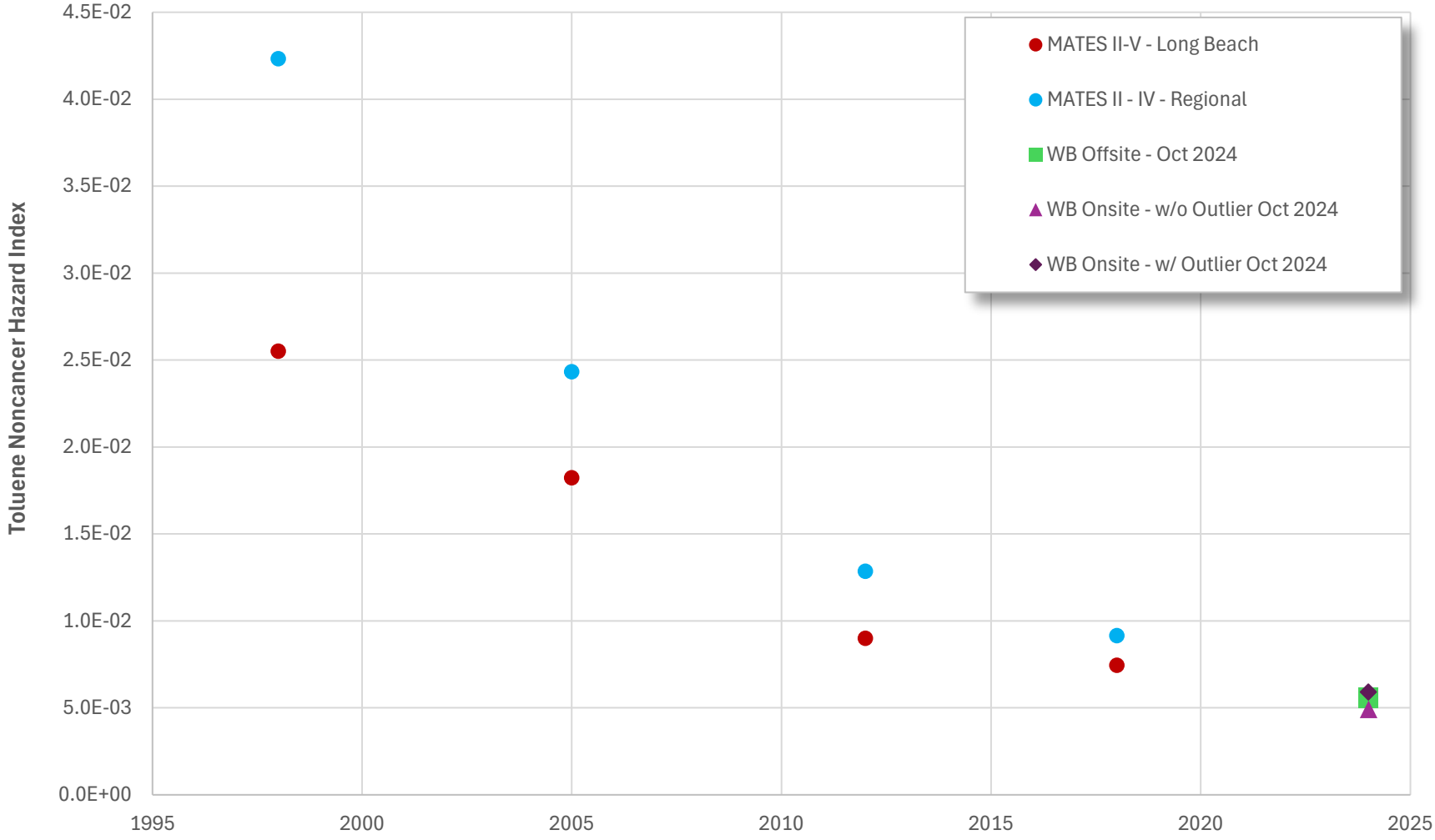


Chart 35
Comparison of Regional vs Walnut Bluff Ethylbenzene Cancer Risk
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

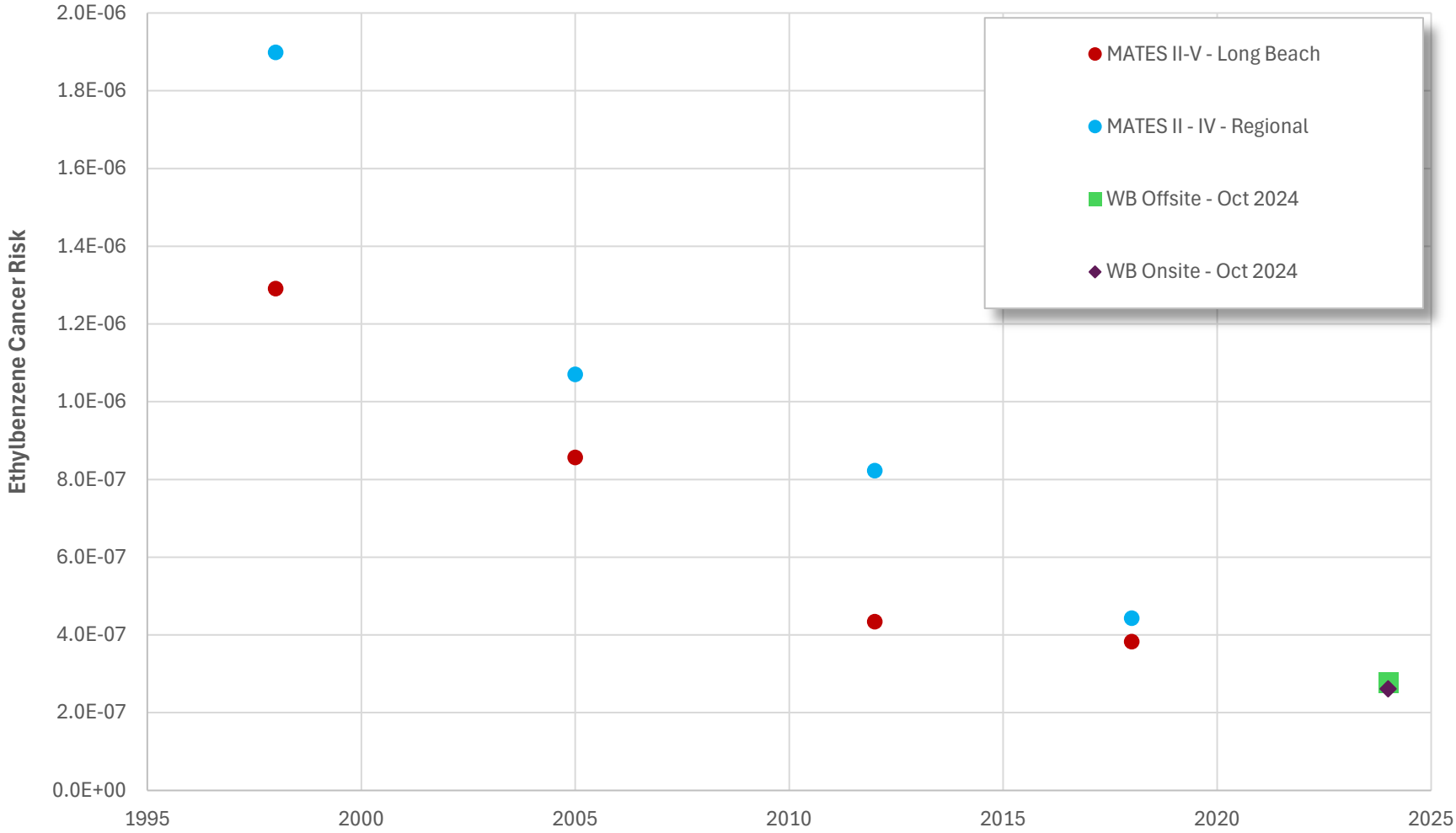


Chart 36
Comparison of Regional vs Walnut Bluff Total Xylenes Noncancer Hazard Index
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

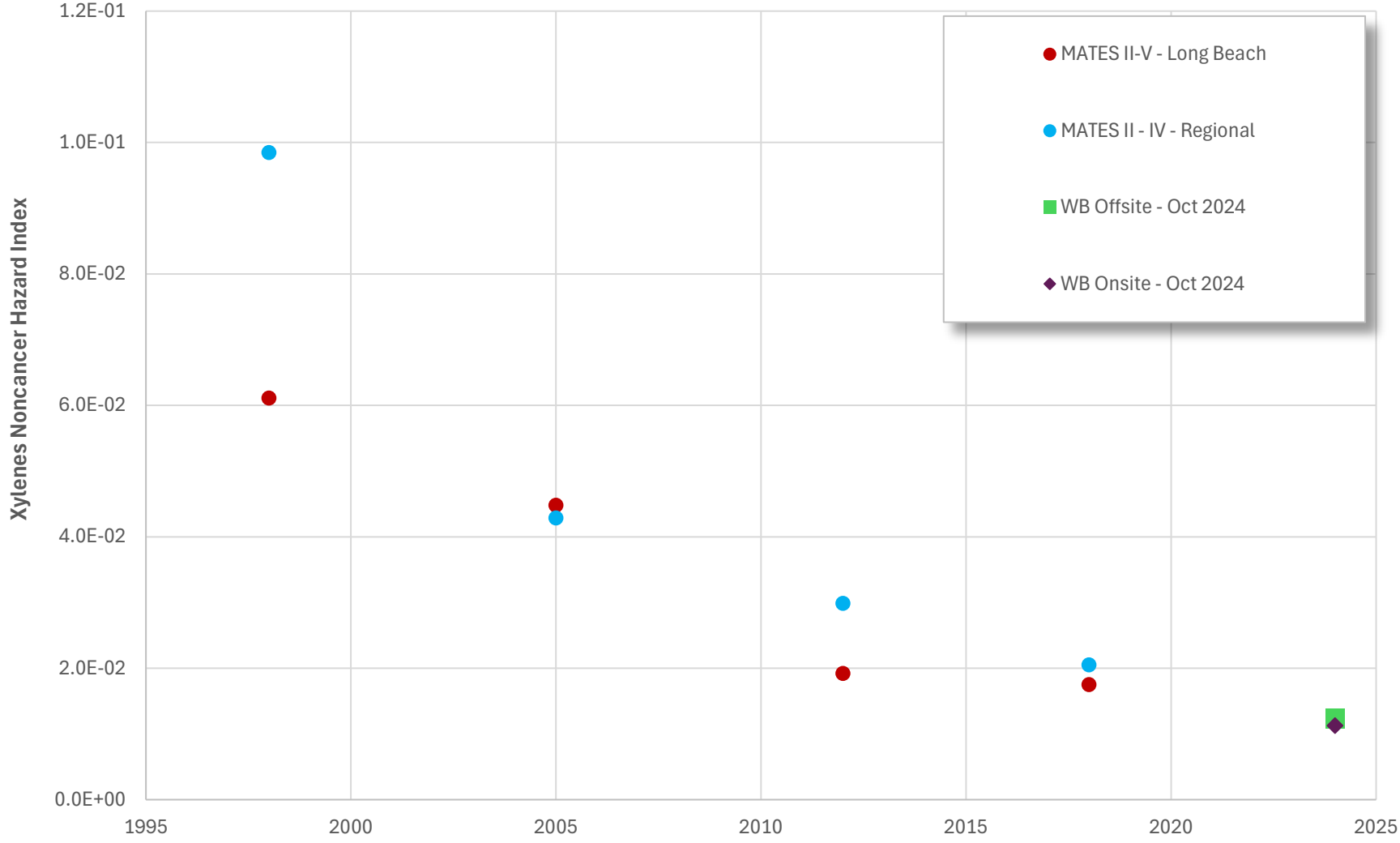
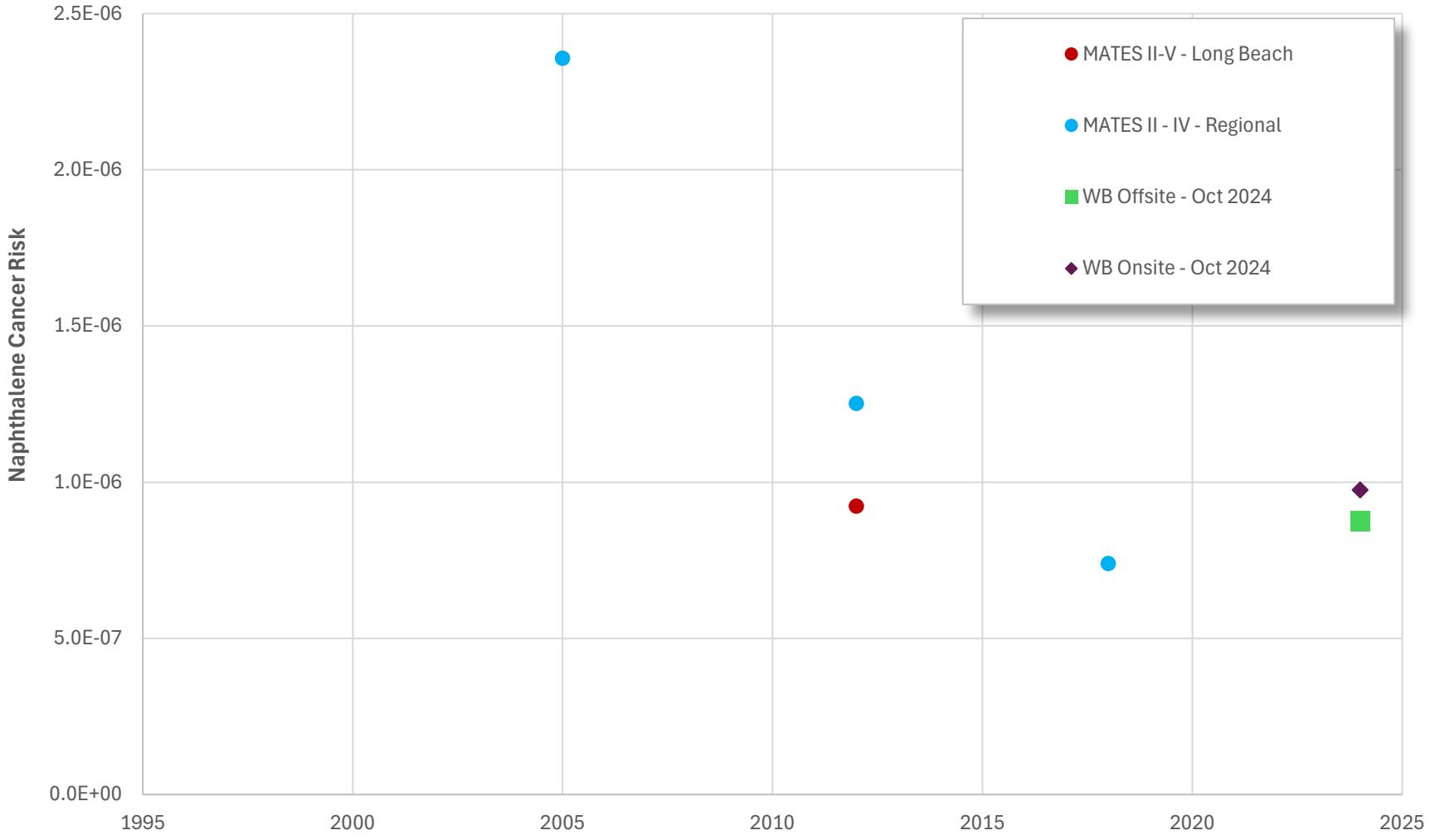


Chart 37
Comparison of Regional vs Walnut Bluff Naphthalene Cancer Risk
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024



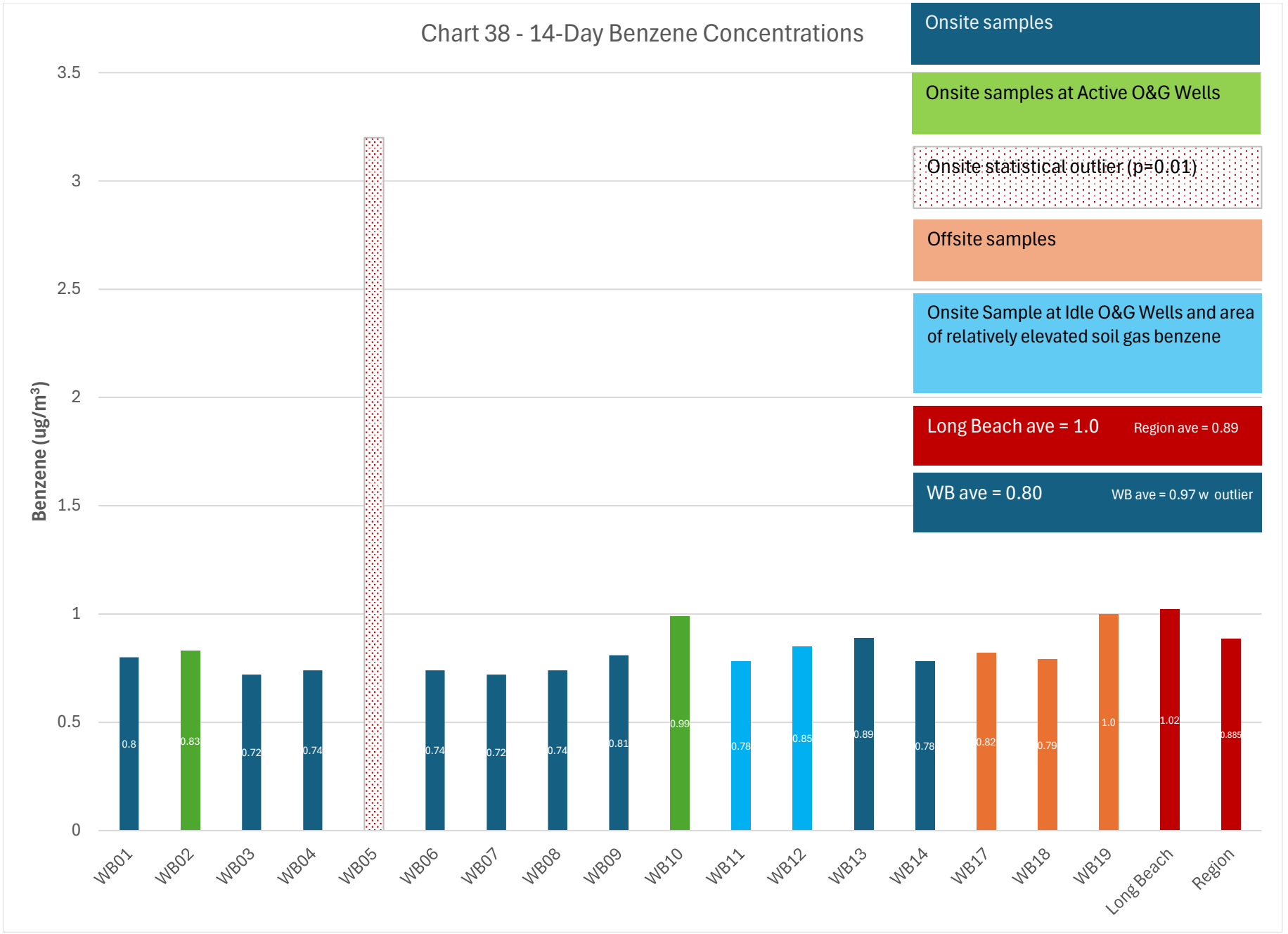


Chart 38 - 14-Day Benzene Concentrations
Benzene (ug/m³)
3.5
3
2.5
2
1.5
1
0.5
0
0.8
0.83
0.72
0.74
0.74
0.72
0.74
0.81
0.99
0.78
0.85
0.89
0.78
0.82
0.79
1.0
1.02
0.885
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region
Onsite samples
Onsite samples at Active O&G Wells
Onsite statistical outlier (p=0.01)
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 1.0
Region ave = 0.89
WB ave = 0.80
WB ave = 0.97 w outlier

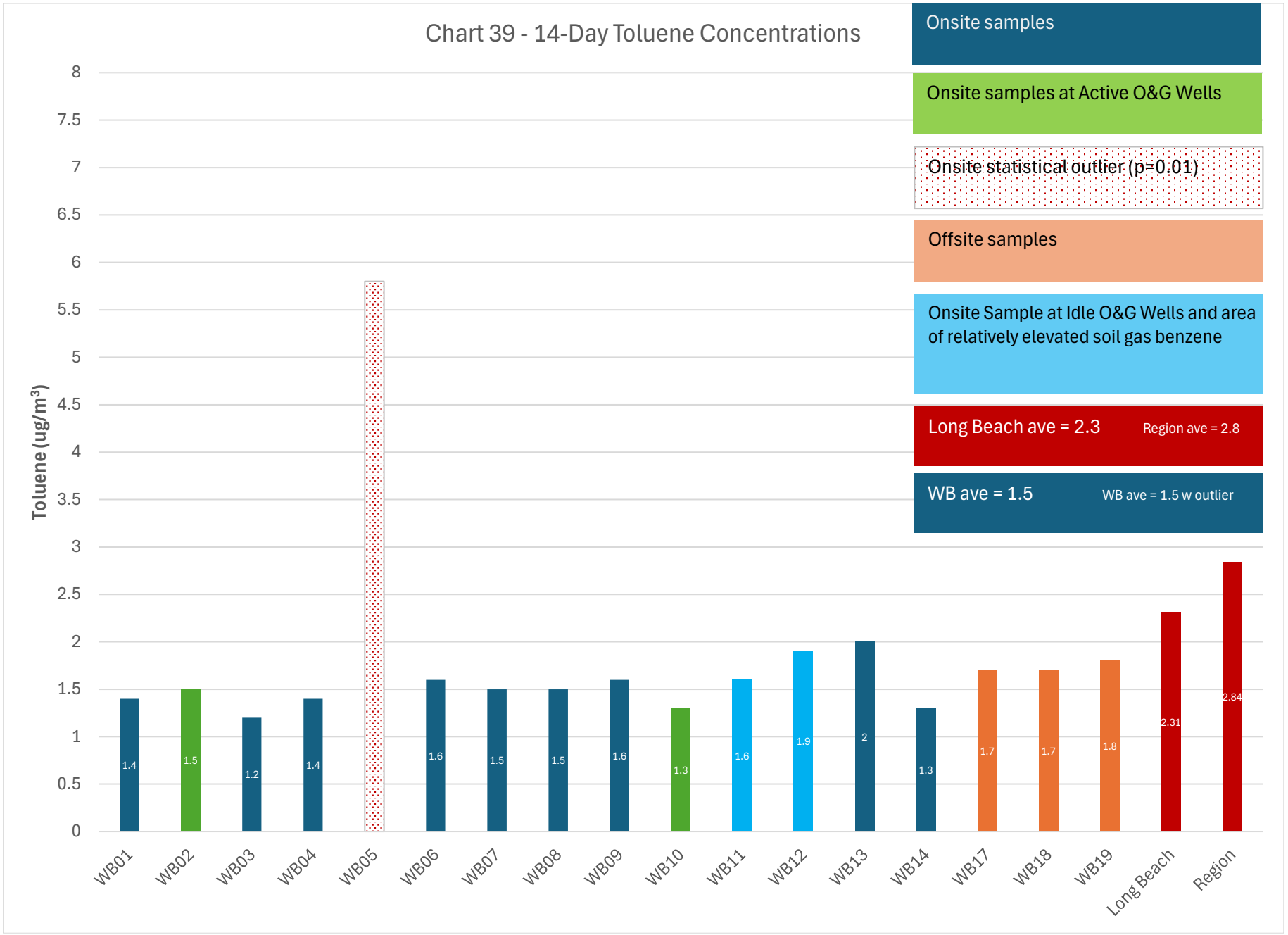


Chart 39 - 14-Day Toluene Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Onsite statistical outlier (p=0.01)
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 2.3
Region ave = 2.8
WB ave = 1.5
WB ave = 1.5 w outlier
Toluene (ug/m³)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
6.5
7
7.5
8
1.4
1.5
1.2
1.4
1.6
1.5
1.5
1.6
1.3
1.6
1.9
2
1.3
1.7
1.7
1.8
2.31
2.84
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

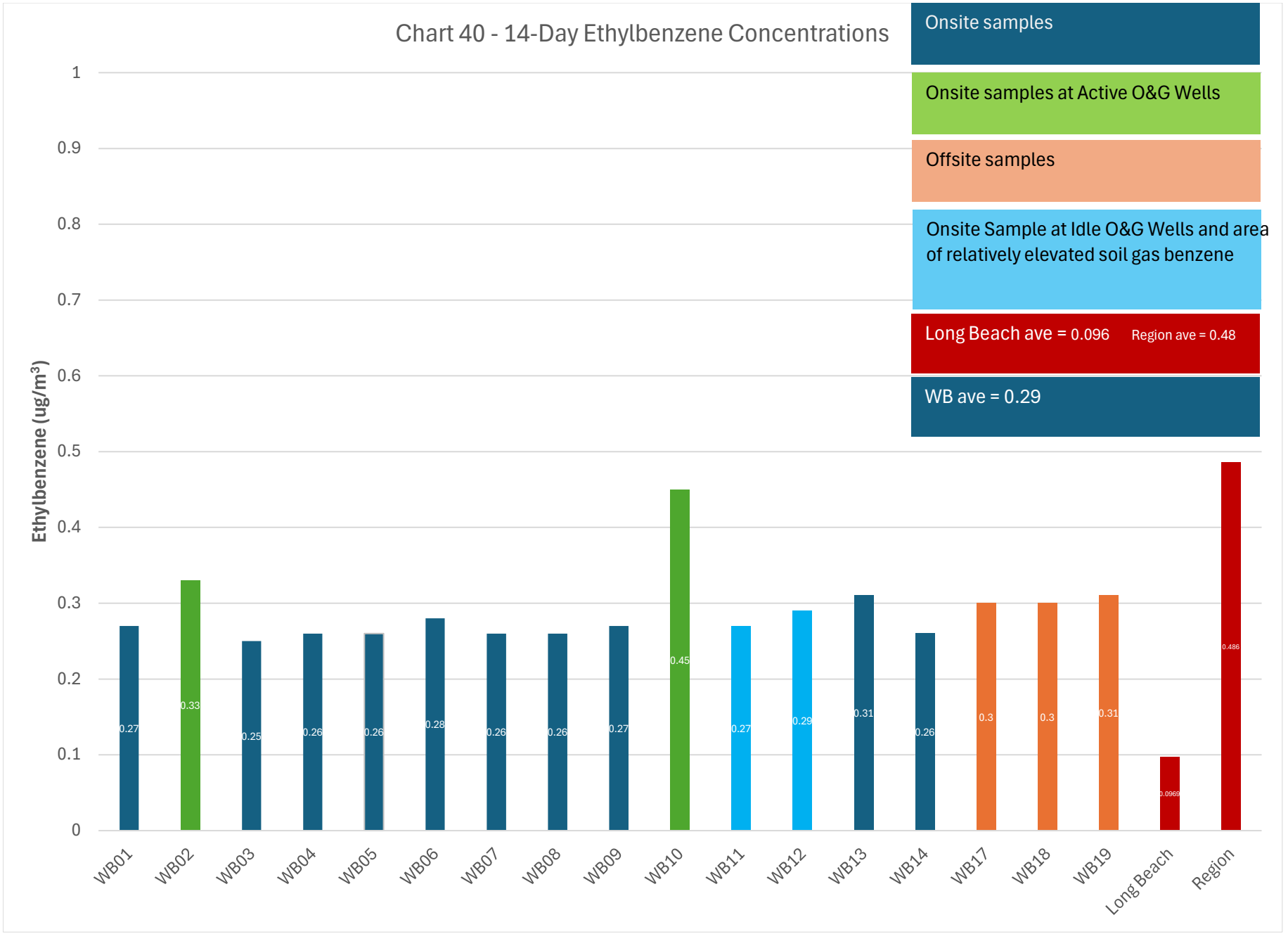


Chart 40 - 14-Day Ethylbenzene Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 0.096
Region ave = 0.48
WB ave = 0.29
Ethylbenzene (ug/m³)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.27
0.33
0.25
0.26
0.26
0.28
0.26
0.26
0.27
0.45
0.27
0.29
0.31
0.26
0.3
0.3
0.31
0.0969
0.486
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

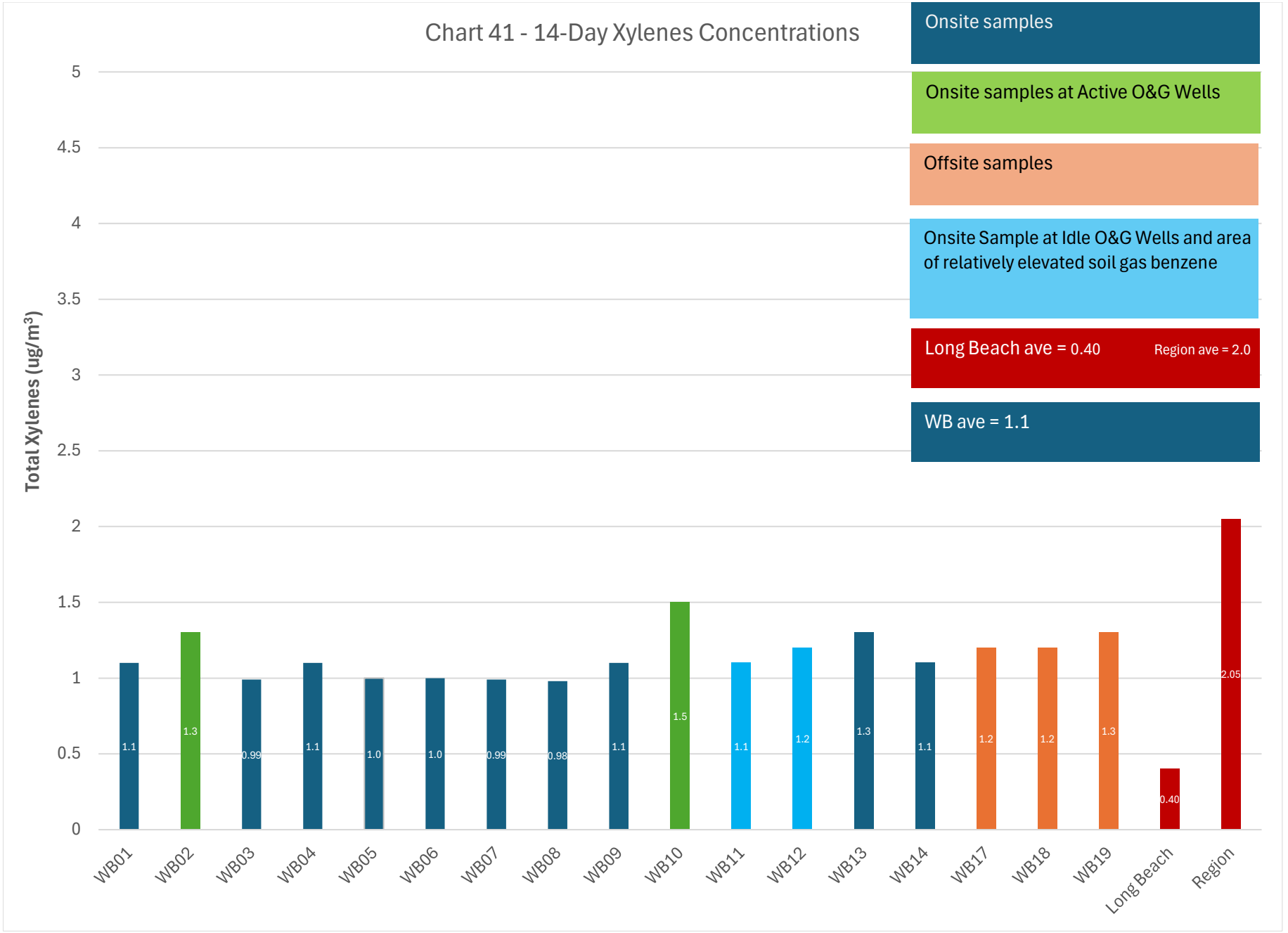


Chart 41 - 14-Day Xylenes Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 0.40
Region ave = 2.0
WB ave = 1.1
Total Xylenes (ug/m³)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1.1
1.3
0.99
1.1
1.0
1.0
0.99
0.98
1.1
1.5
1.1
1.2
1.3
1.1
1.2
1.2
1.3
0.40
2.05
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

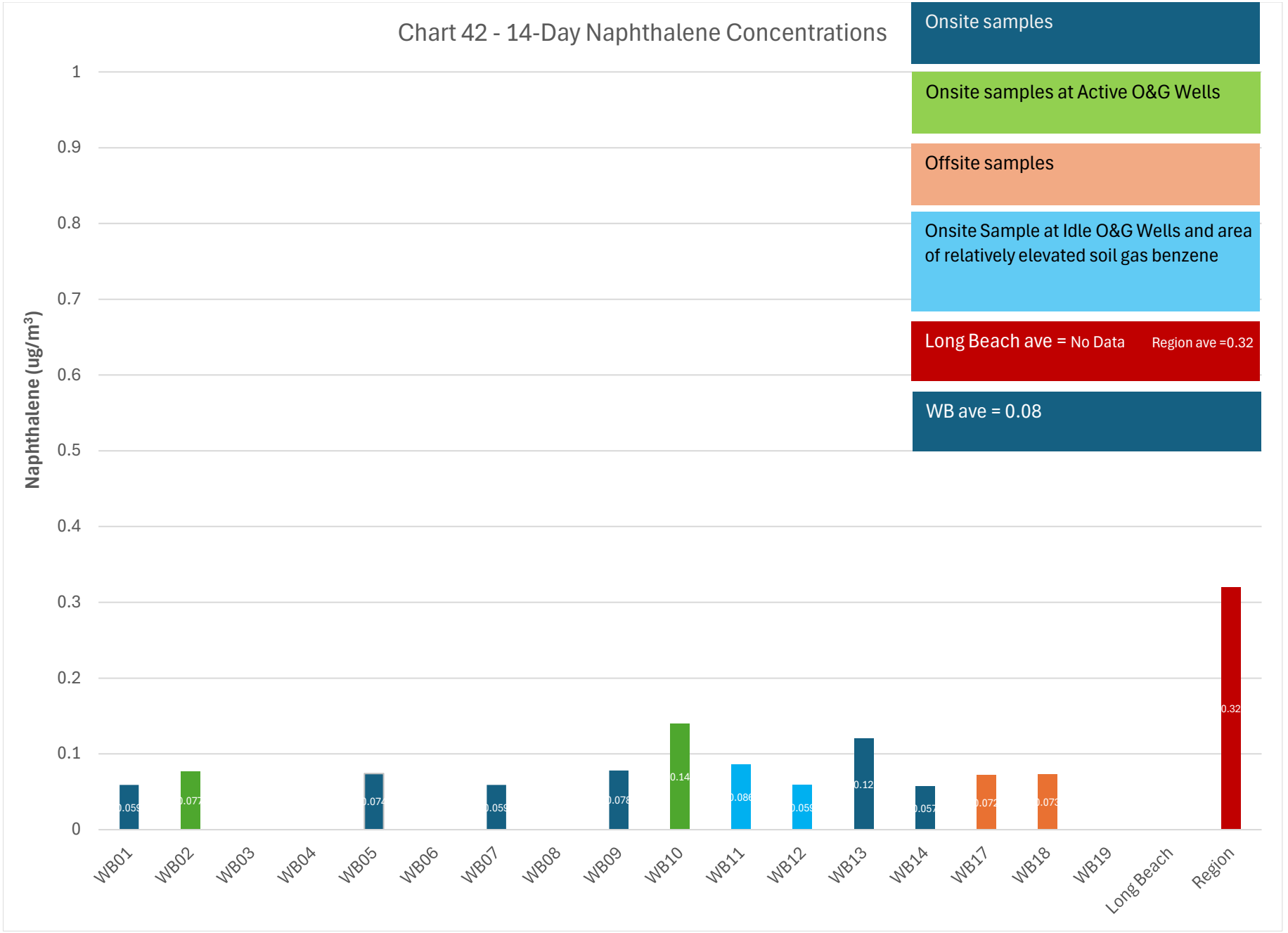


Chart 42 - 14-Day Naphthalene Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = No Data
Region ave =0.32
WB ave = 0.08
Naphthalene (ug/m3)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.059
0.077
0.074
0.059
0.078
0.14
0.086
0.059
0.12
0.057
0.072
0.073
0.32
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

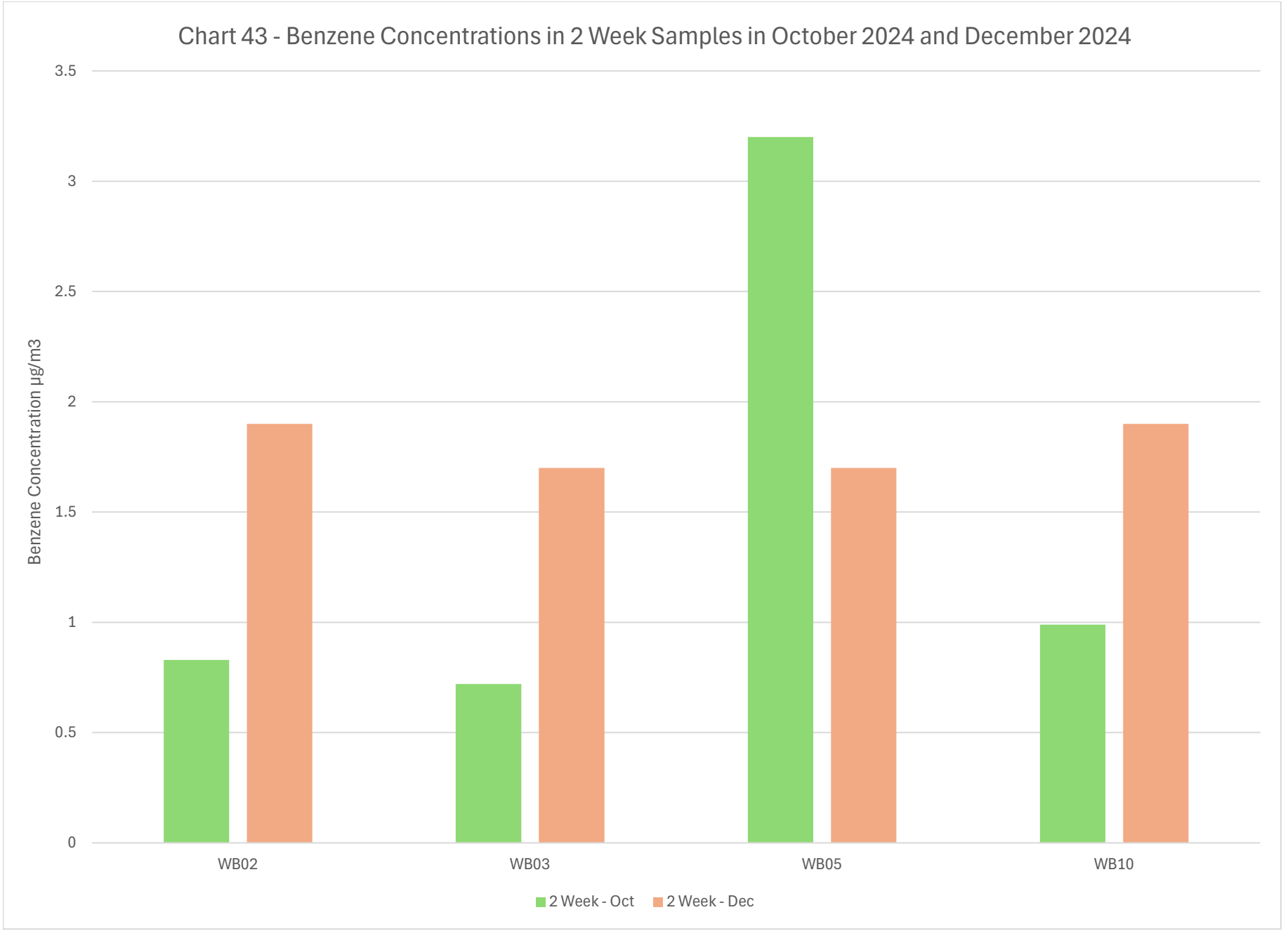


Chart 43 - Benzene Concentrations in 2 Week Samples in October 2024 and December 2024
Benzene Concentration µg/m3
3.5
3
2.5
2
1.5
1
0.5
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

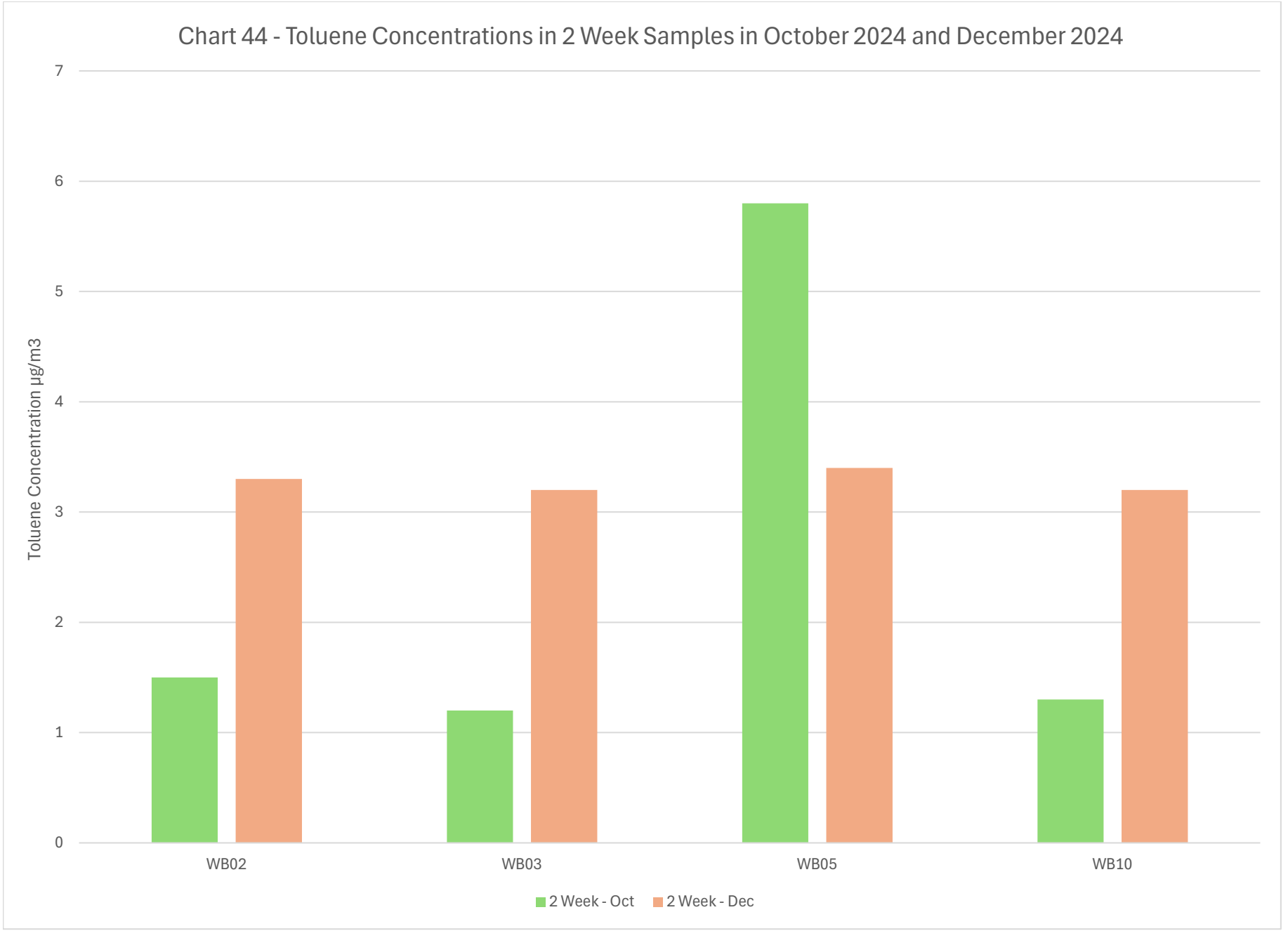


Chart 44 - Toluene Concentrations in 2 Week Samples in October 2024 and December 2024
Toluene Concentration µg/m3
7
6
5
4
3
2
1
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

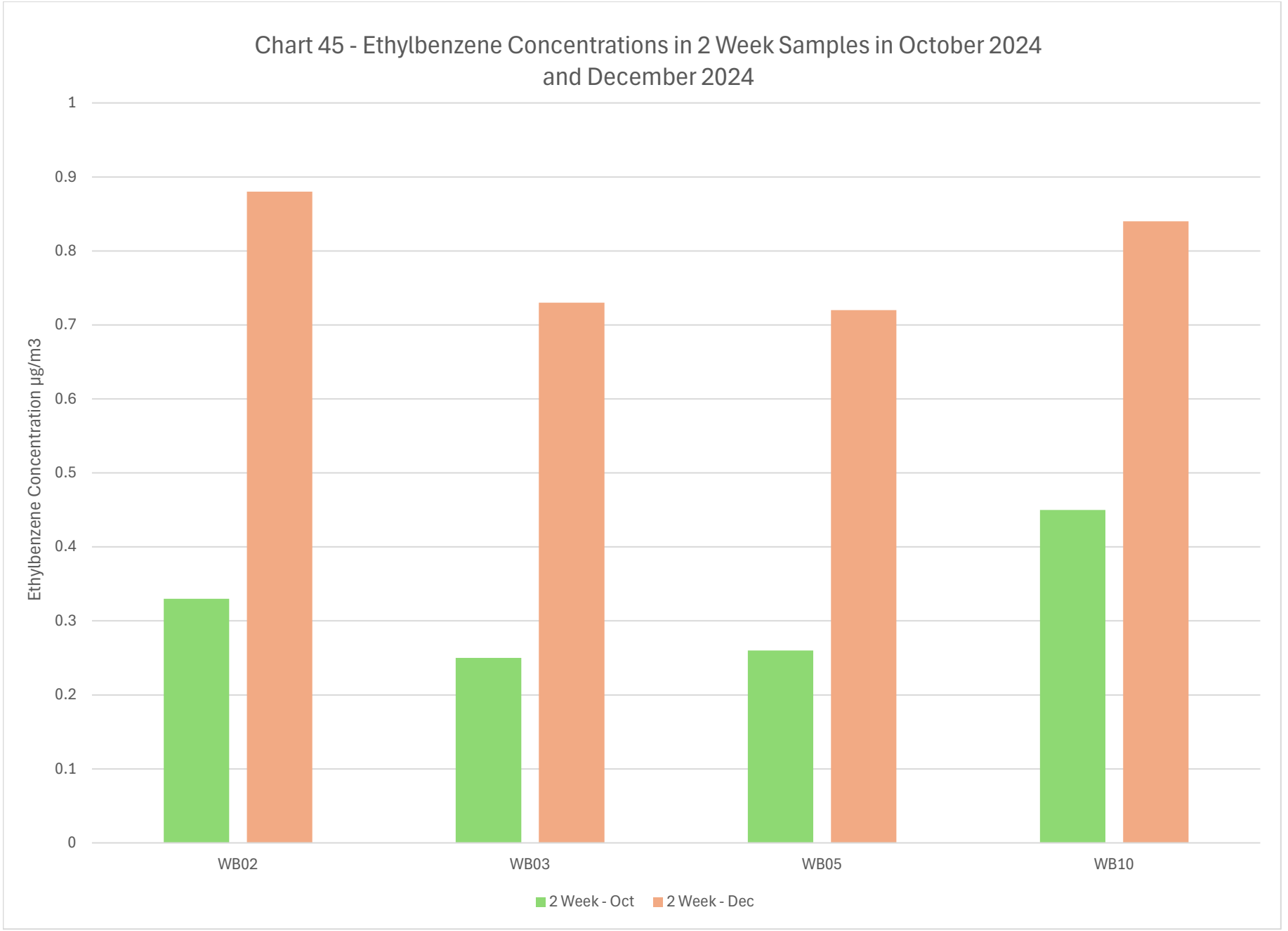


Chart 45 - Ethylbenzene Concentrations in 2 Week Samples in October 2024 and December 2024
Ethylbenzene Concentration µg/m3
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

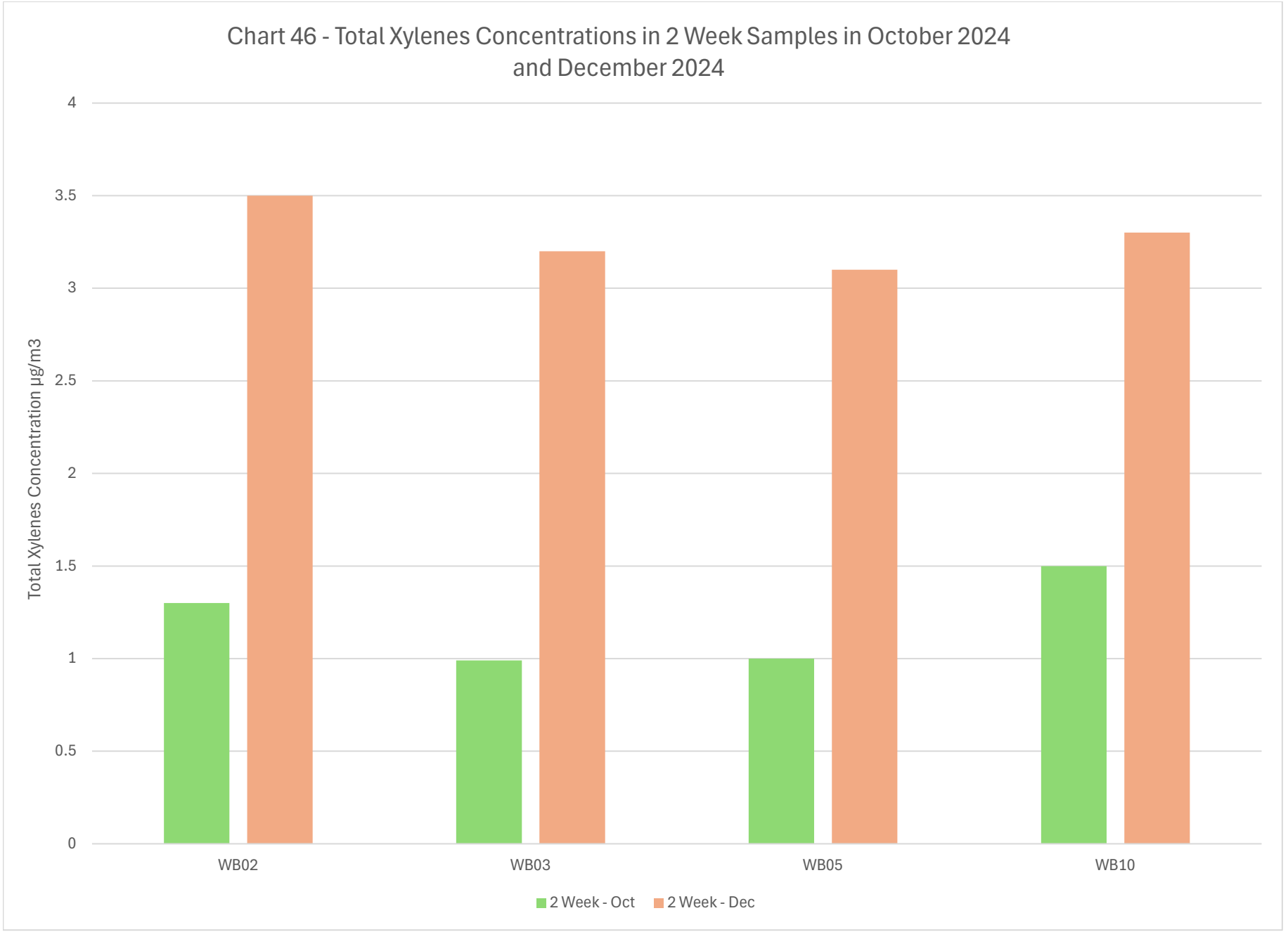


Chart 46 - Total Xylenes Concentrations in 2 Week Samples in October 2024 and December 2024
Total Xylenes Concentration µg/m3
4
3.5
3
2.5
2
1.5
1
0.5
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

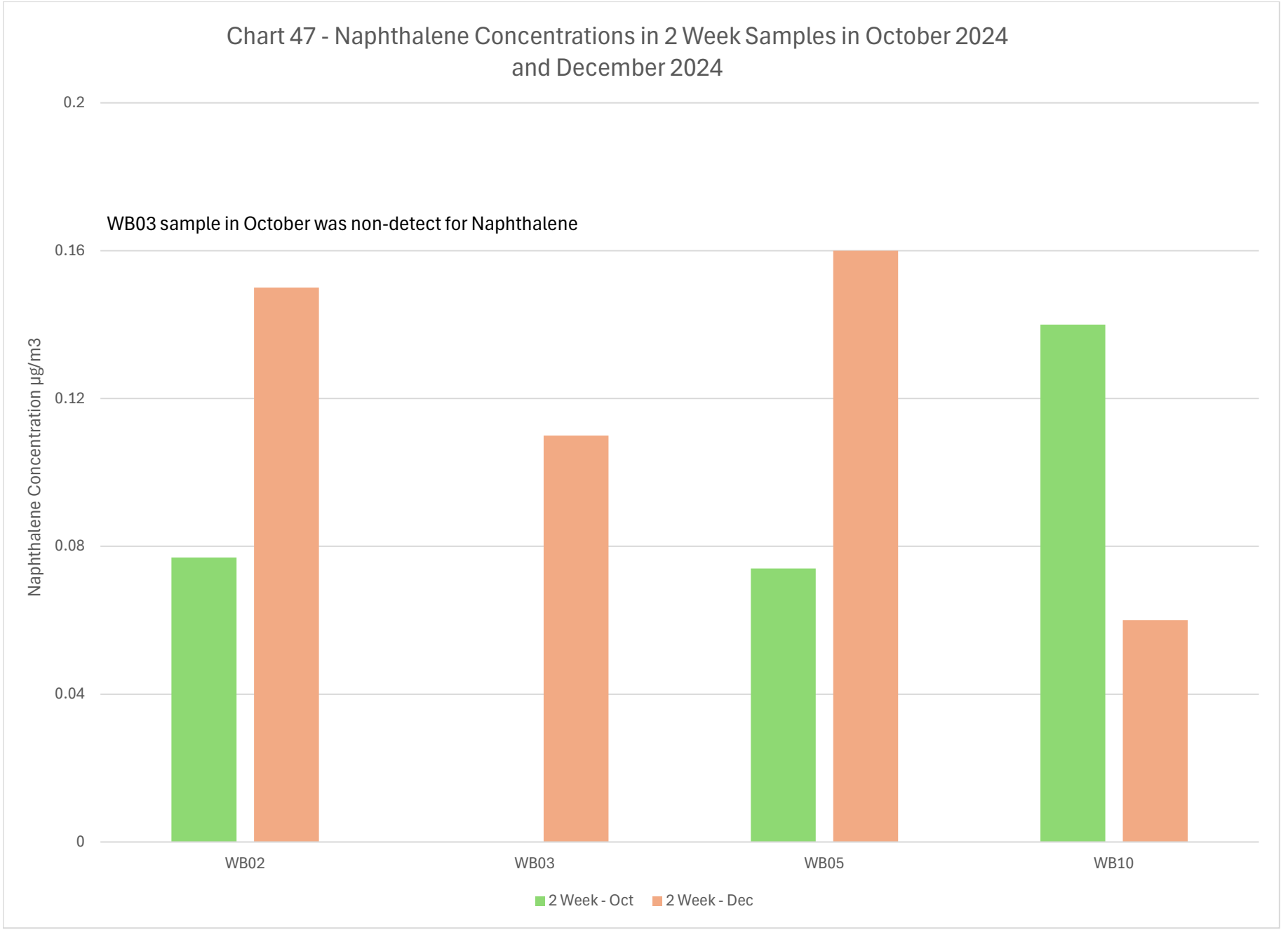


Chart 47 - Naphthalene Concentrations in 2 Week Samples in October 2024 and December 2024
WB03 sample in October was non-detect for Naphthalene
Naphthalene Concentration µg/m3
0.2
0.16
0.12
0.08
0.04
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

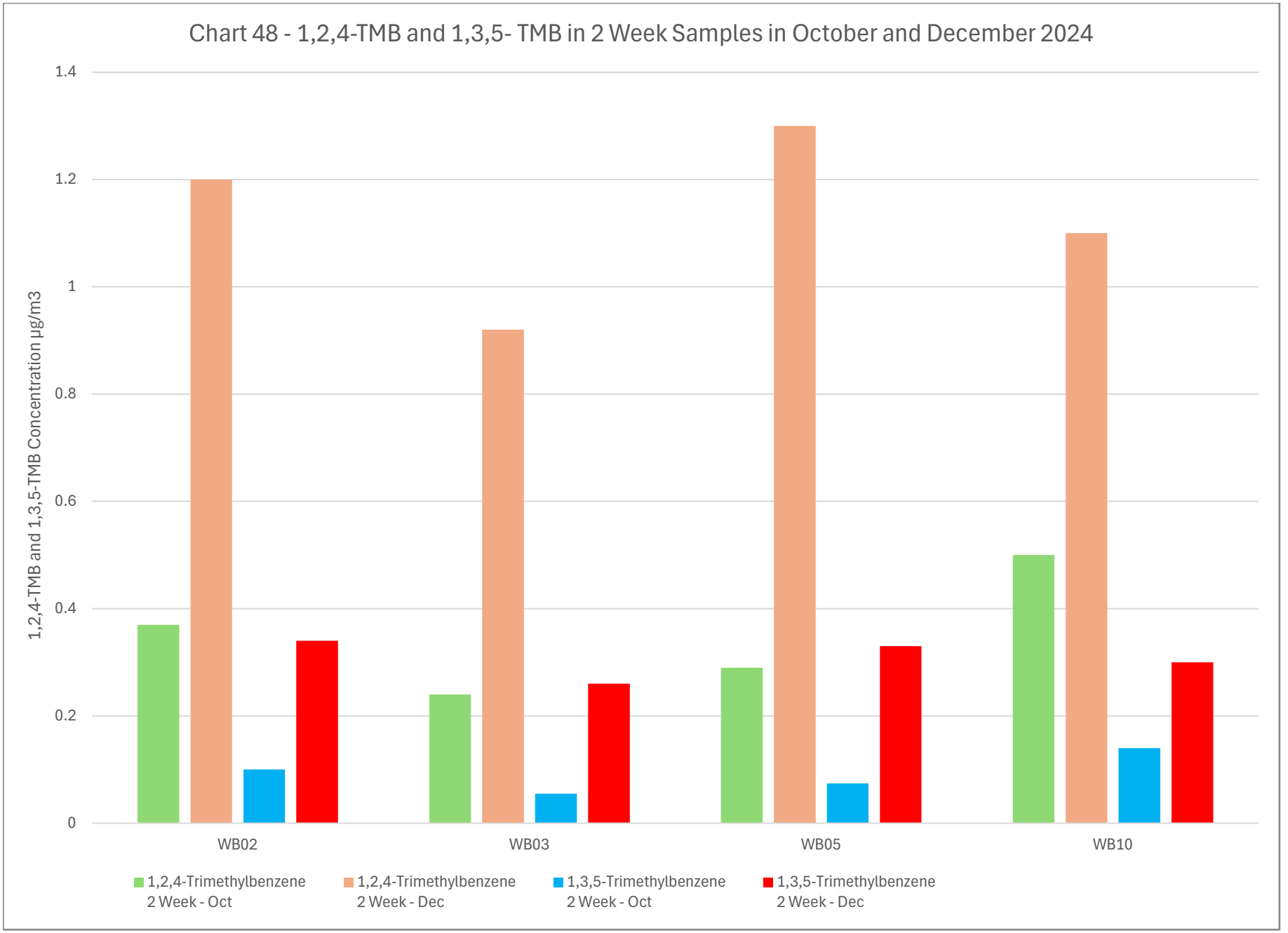


Chart 48 - 1,2,4-TMB and 1,3,5- TMB in 2 Week Samples in October and December 2024
1,2,4-TMB and 1,3,5-TMB Concentration µg/m3
1.4
1.2
1
0.8
0.6
0.4
0.2
0
WB02
WB03
WB05
WB10
1,2,4-Trimethylbenzene 2 Week - Oct
1,2,4-Trimethylbenzene 2 Week - Dec
1,3,5-Trimethylbenzene 2 Week - Oct
1,3,5-Trimethylbenzene 2 Week - Dec

Chart 49 WB 16 Windrose Diagram (December 2024)

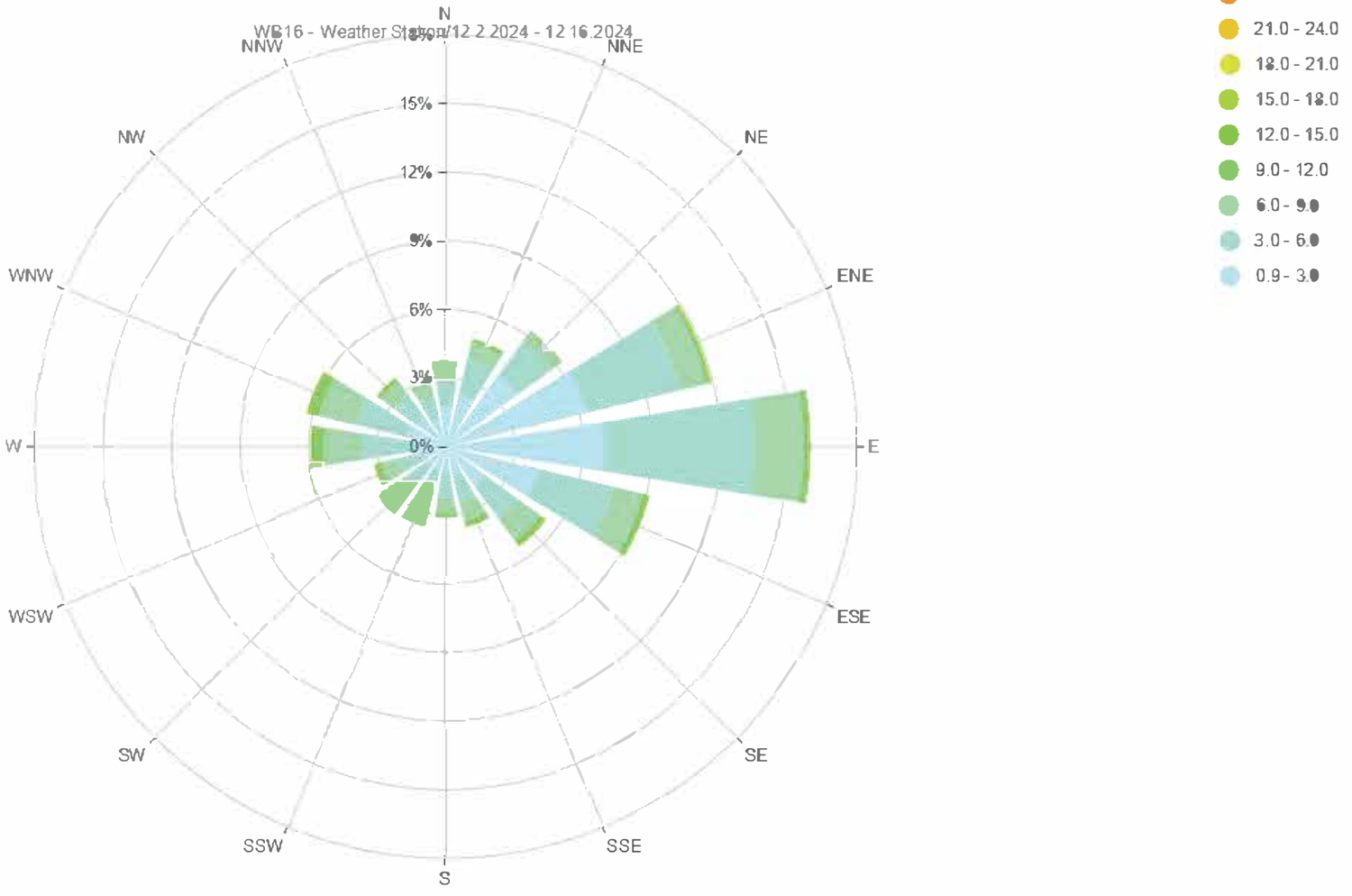
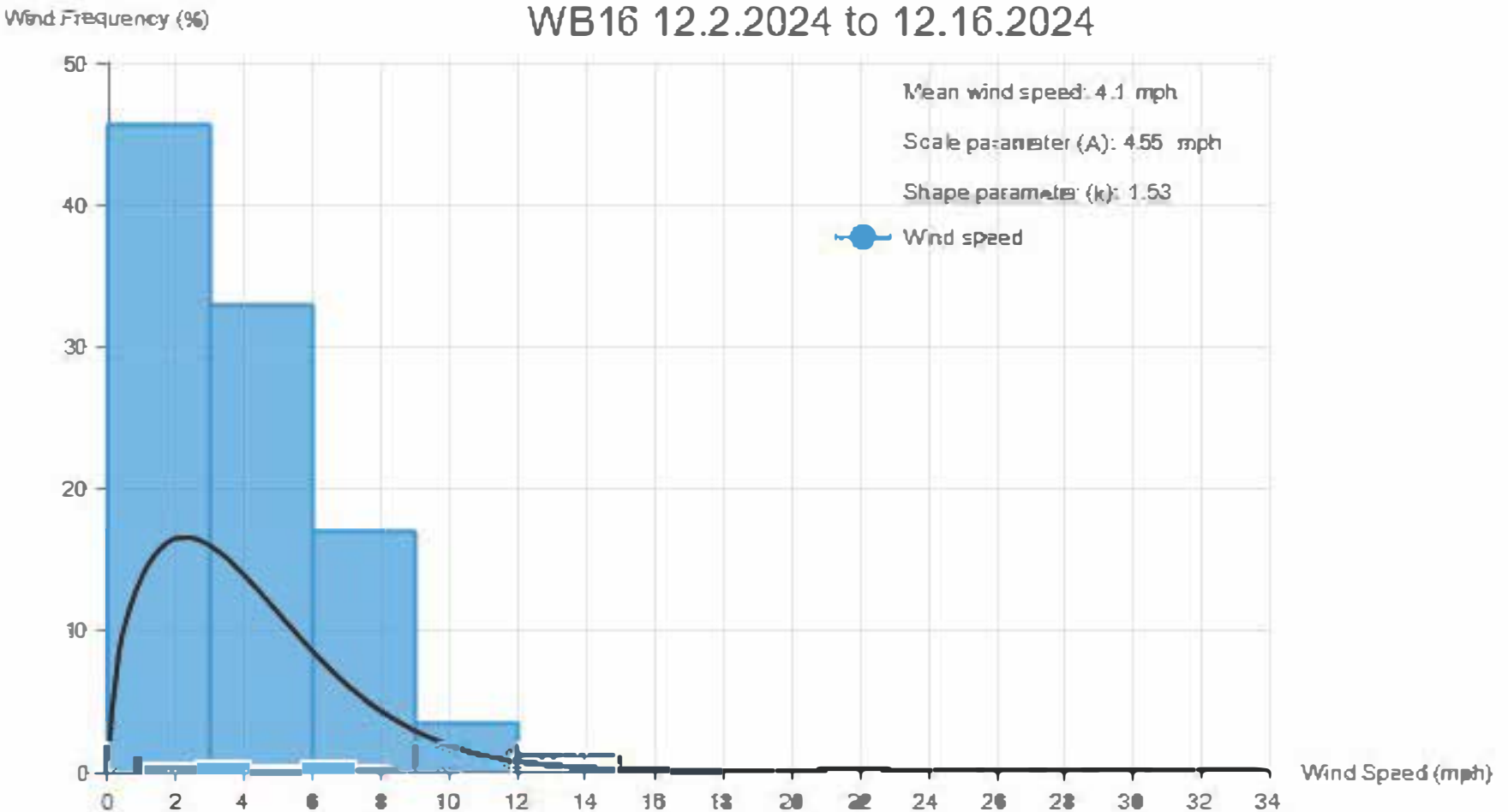


Chart 50 Windspeed (December 2024)



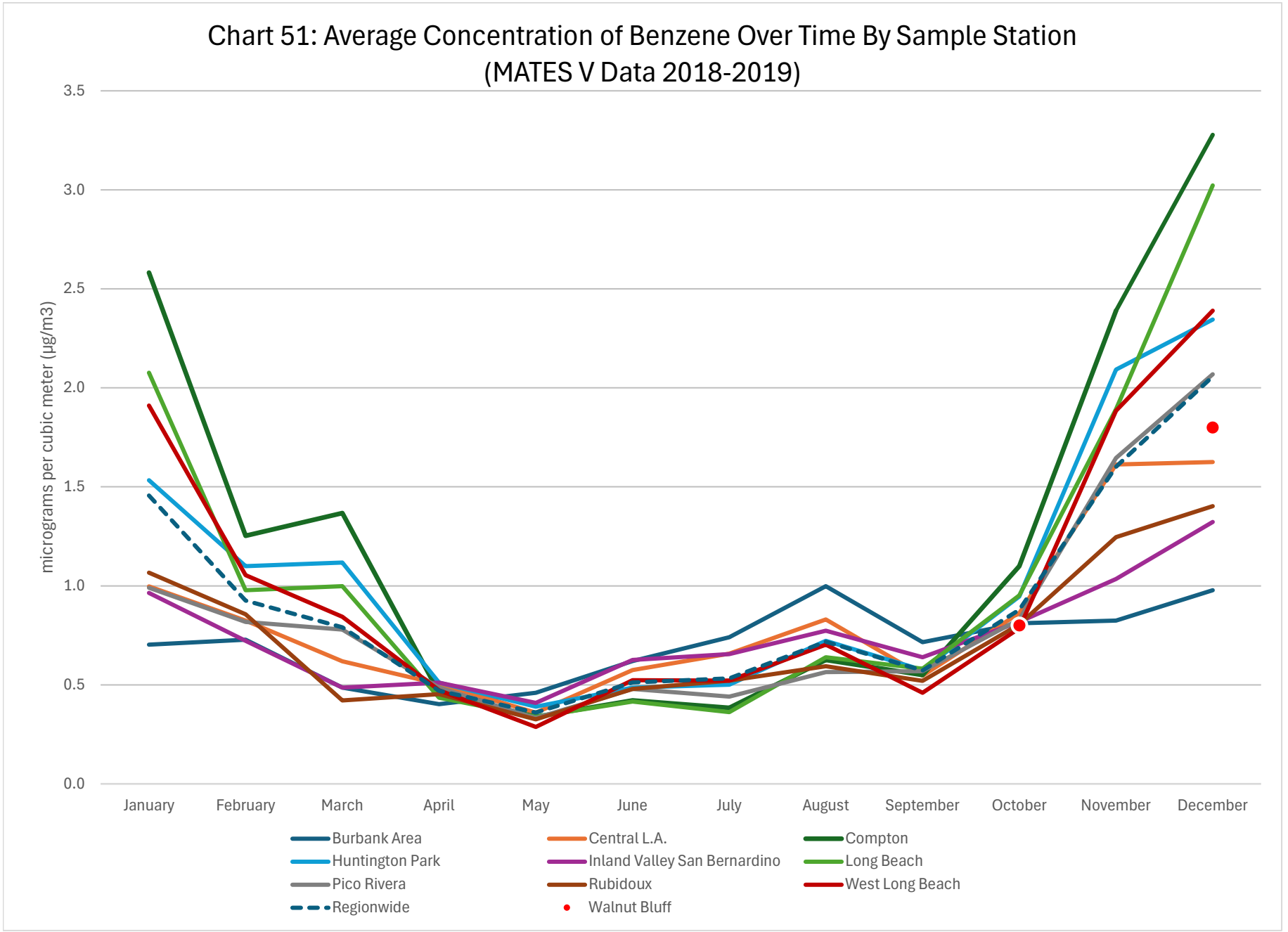
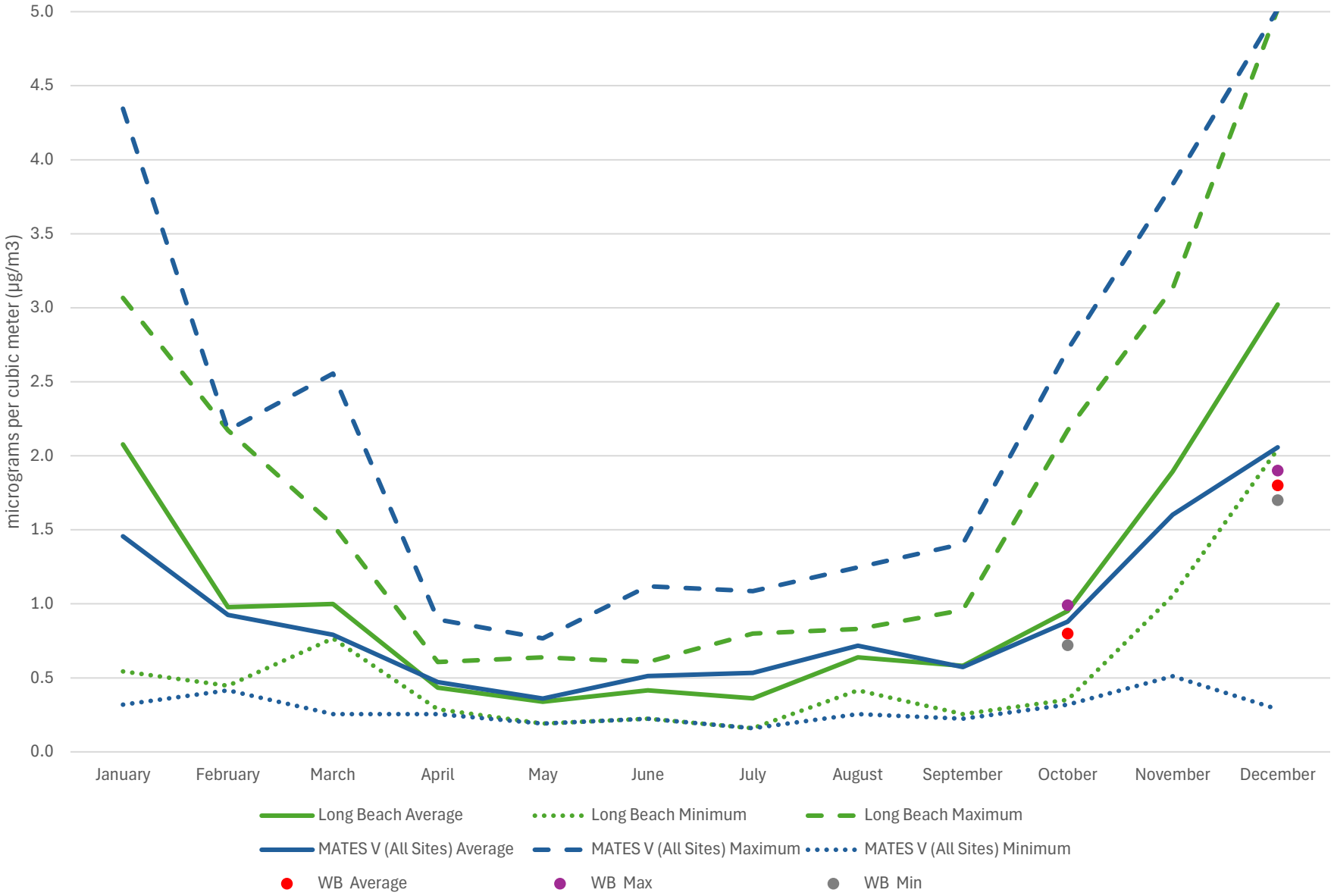


Chart 51: Average Concentration of Benzene Over Time By Sample Station
(MATES V Data 2018-2019)
micrograms per cubic meter (µg/m3)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
January
February
March
April
May
June
July
August
September
October
November
December
Burbank Area
Central L.A.
Compton
Huntington Park
Inland Valley San Bernardino
Long Beach
Pico Rivera
Rubidoux
West Long Beach
Regionwide
Walnut Bluff

Chart 52: Comparison of Benzene Concentrations Detected at Walnut Bluff and MATES V



Appendix A

Field Data Sheets

2 Week Samples

Ambient Air Sampling Form

start ↓

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/1/24

Sampled by: Elizabeth Hwang Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB17-14D	A70230	C70938	30	8	2 Weeks
Time/Date	10/1/24, 0935	10/10/24 14:32	10/15/24 0940		
Pressure (in HG)	30	15	8		
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB18-14D	A70252	C70812	31	10	2 Weeks
Time/Date	10/1/24, 10:20	10/10/24 14:46	10/15/24 1028		
Pressure (in HG)	31	17	10		
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB9-14D	A70102	C70012	29	6	2 Weeks
Time/Date	10/1/24, 10:44	10/9/24 11:22	10/10/24 13:16	10/15/24 11:05	
Pressure (in HG)	29	16	14	6	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB10-14D	A70238	C70331	31	6	2 Weeks
Time/Date	10/1/24, 10:49	10/9/24 11:20	10/10/24 13:45	10/15/24 11:12	
Pressure (in HG)	31	16	14	6	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB11-14D	A70404	C70352	30	5	2 Weeks
Time/Date	10/1/24 10:55	10/9/24 12:51	10/10/24 14:14	10/15/24 11:16	
Pressure (in HG)	30	16	14	5	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB12-14D	A70144	C70908	31	8	2 Weeks
Time/Date	10/1/24 11:03	10/9/24 11:59	10/10/24 13:50	10/15/24 11:20	
Pressure (in HG)	31	17	15.5	8	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB13-14D	A70531	C70249	30	7	2 Weeks
Time/Date	10/1/24 11:10	10/9/24 09:13	10/10/24 13:52	10/15/24 11:24	
Pressure (in HG)	30	17.5	15	7	
Comments:					

2 week Samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: signal Hill Date: _____

Sampled by: Elizabeth Hwang Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB14-14D	A70014	C70309	30	5	2 Weeks
Time/Date	10/1/24 11:16	10/9/24 09:28	10/10/24 13:56	10/15/24 11:28	
Pressure (in HG)	30	14	13	5	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WBQ2-14D	A70413	C70903	31	6	2 Weeks
Time/Date	10/1/24 11:20	10/9/24 10:33	10/10/24 12:51	10/15/24 11:34	
Pressure (in HG)	31	17	15	6	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB01-14D	A70124	C70196	30	8	2 Weeks
Time/Date	10/1/24 11:26	10/9/24 09:01	10/10/24 11:49	10/15/24 11:37	
Pressure (in HG)	30	18	16	8	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB03-14D	A70027	C70059	31	7	2 Weeks
Time/Date	10/1/24 11:33	10/9/24 10:36	10/10/24 12:41	10/15/24 11:46	
Pressure (in HG)	31	17	15	7	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB 05-14D	A70163	C70800	31	10	2 Weeks
Time/Date	10/1/24 11:43	10/9/24 4:06	10/10/24 12:49	10/15/24 12:01	
Pressure (in HG)	31	19	17	10	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB04-14	A70110	C70932	28	7	2 Weeks
Time/Date	10/1/24 11:47	10/9/24 10:48	10/10/24 12:50	10/15/24 11:50	
Pressure (in HG)	28	16	15	7	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB06-14D	A70403	C70916	30	3	2weeks
Time/Date	10/1/24 11:52	10/9/24 10:43	10/10/24 13:06	10/15/24 11:56	
Pressure (in HG)	30	15	13.5	3	
Comments:					

2 week samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: _____

Sampled by: Elizabeth Hwang Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB07-14D	A70248	C70901	31	7	2 Weeks
Time/Date	10/1/24 11:57	10/9/24 08:45	10/10/24 13:08	10/15/24 1206	
Pressure (in HG)	31	18	16	7	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB08-14D	A70079	C70914	30	8	2Weeks
Time/Date	10/1/24 12:01	10/9/24 11:14	10/10/24 13:12	10/15/24 12:11	
Pressure (in HG)	30	17	15	8	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB19-14D	A70118	C70081	30	9	2Weeks
Time/Date	10/1/24 14:51	10/9/24 09:53	10/10/24 14:23	10/15/24 1444	
Pressure (in HG)	30	19	17	9	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date				10/15/24	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date				1	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

24Hr samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang, Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB01-24H	6024fc	0626	30	1	24 Hr
Time/Date	10/9/24 12:33	10/10/24 11:48	10/9/24 12:33	10/10/24 11:48	
Pressure (in HG)	30	1			
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB02-24H	20459	813	30	2	24Hr
Time/Date			10/9/24 12:36	10/10/24 12:38	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB03-24	13897	0794	30	2	24 Hr
Time/Date			10/9/24 12:38	10/10/24 12:42	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB04-24H	6026fc	37493	30	3	24 Hr
Time/Date			10/9/24 12:42	10/10/24 12:44	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB05-24H	18716	c8346	29	3	24 Hr
Time/Date			10/9/24 12:46	10/10/24 12:46	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB06-24H	6027fc	0747	30	3	24 Hr
Time/Date			10/9/24 13:04	10/10/24 13:05	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB07-24H	10001	0616	30	2	24Hr
Time/Date			10/9/24 13:06	10/10/24 13:08	
Pressure (in HG)					
Comments:					

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24 / 10/10/24

Sampled by: Elizabeth Hwang / Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB08-24H	6030fc	35416	30	2	
Time/Date			10/9/24 13:12	10/10/24 13:11	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB09-24	6022fc	0762	30	2	
Time/Date			10/9/24 13:17	10/10/24 12:20	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB10-24H	18714	0161	30	2	
Time/Date			10/9/24 14:07	10/10/24 13:44	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB11-24H	10012	0684	30	3	
Time/Date			10/9/24 14:10	10/10/24 14:13	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB12-24H	5982	27754	30	2	
Time/Date			10/9/24 14:14	10/10/24 12:30	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB13-24H	6031	0681	30	1	
Time/Date			10/9/24 14:16	10/10/24 13:50	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB14-24H	6025fc	0484	30	2	
Time/Date			10/9/24 14:19	10/10/24 13:55	
Pressure (in HG)					
Comments:					

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang / Olivia Hagan Weather/Temp (°F): ______

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB19-24H	5980	819	30	2	
Time/Date			10/9/24 14:30	10/10/24 14:21	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB17-24H	20197	0685	31	2	
Time/Date			10/9/24 14:47	10/10/24 1431	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB18-24H	6029fc	27756	30	1.5	
Time/Date			10/9/24 14:58	10/10/24 14:45	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

1Hr Samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang/Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB07-1H	13685	0790	28	4	1Hr
Time/Date			10/9/24 08:36	10/9/24 09:42	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB01-1H	18718	0787	29	5	1Hr
Time/Date			10/9/24 09:00	10/9/24 09:59	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB13-1H	13676	49967	28	4.5	1 Hr
Time/Date			10/9/24 09:10	10/9/24 10:09	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB14-1H	20201	802	29	5	1Hr
Time/Date			10/9/24 09:18	10/9/24 10:19	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB19-1H	6032	0744	30	5	1Hr
Time/Date			10/9/24 09:52	10/9/24 10:54	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB02-1H	6057	0796	29	4	1Hr
Time/Date			10/9/24 10:31	10/9/24 11:31	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB03-1H	5983	0803	27	4	1Hr
Time/Date			10/9/24 10:35	10/9/24 11:33	
Pressure (in HG)					
Comments:					

1 Hr Samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang / Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB06-1H	13686	43531	30	4	1Hr
Time/Date			10/9/24 10:43	10/9/24 11:42	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB04-1H	6016	23803	29	4	1Hr
Time/Date			10/9/24 10:47	10/9/24 11:46	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB05-1H	6013	37503	29	4	1 Hr
Time/Date			10/9/24 11:06	10/9/24 12:08	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB08-1H	17517	49958	29	4	1 Hr
Time/Date			10/9/24 11:11	10/9/24 12:11	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB10-1H	17512	0679	28	3	1Hr
Time/Date			10/9/24 11:17	10/9/24 12:20	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB09-1H	7629	0800	29	4	1Hr
Time/Date			10/9/24 11:22	10/9/24 12:24	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB11-1H	18715	35427	27	5	1Hr
Time/Date			10/9/24 1192	10/9/24 1251	
Pressure (in HG)					
Comments:					

1HR samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang / Olivia Hogan Weather/Temp (°F): ____________

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB12-1H	13694	C8345	28	3	1 Hr
Time/Date			10/9/24 11:58	10/9/24 12:58	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB17-1H	13898	37519	29	2	1Hr
Time/Date			10/9/24 13:30	10/9/24 14:37	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB18-1H	13677	0761	29	3	1 Hr
Time/Date			10/9/24 13:52	10/9/24 14:56	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Appendix B

Quality Assurance Evaluation of Laboratory Data

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

12-11-2024

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Laboratory Report Number:

518235

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

10/22/24

1. **Laboratory**

   a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

   Yes■ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

   Yes☐ No☐ N/A■ Comments:

2. **Chain of Custody (CoC)**

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes■ No☐ N/A☐ Comments:

   b. Correct analyses requested per approved Work Plan?

   Yes■ No☐ N/A☐ Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

   Yes■ No☐ N/A☐ Comments:

   b. If sample condition compromised, is Data quality or usability affected?

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Provide an explanation in comment box for any N/A or No box checked.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes☒ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes☒ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

No issues encountered

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No☒ N/A☐ Comments:

See attached. none of the analytes are related to petroleum hydrocarbons

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Provide an explanation in comment box for any N/A or No box checked.

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Provide an explanation in comment box for any N/A or No box checked.

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

518235

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

10/22/24

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

518235

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

10/22/24

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes☒ No☐ N/A☐ Comments:

518235																						
Sample ID	*Units*	*dtscC*	*dtscNC*	*RSLc*	*RSLnc*	*WB01-14D*	*WB02-14D*	*WB03-14D*	*WB04-14D*	*WB05-14D*	*WB06-14D*	*WB07-14D*	*WB08-14D*	*WB09-14D*	*WB10-14D*	*WB11-14D*	*WB12-14D*	*WB13-14D*	*WB14-14D*	*WB17-14D*	*WB18-14D*	*WB19-14D*
Sample Date						*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*
Lab Sample ID						*518235-001*	*518235-002*	*518235-003*	*518235-004*	*518235-005*	*518235-006*	*518235-007*	*518235-008*	*518235-009*	*518235-010*	*518235-011*	*518235-012*	*518235-013*	*518235-014*	*518235-015*	*518235-016*	*518235-017*
1,1,1,2-Tetrachloroethane	ug/m3	0.38	130	0.38	--	0.076	0.069	0.069	0.069	0.082	0.069	0.069	0.076	0.069	0.069	0.069	0.069	0.076	0.069	0.076	0.082	0.076
1,1,1-Trichloroethane	ug/m3	--	1000	--	5200	0.06	0.055	0.055	0.055	0.065	0.055	0.055	0.06	0.055	0.055	0.055	0.055	0.06	0.055	0.06	0.065	0.06
1,1,2,2-Tetrachloroethane	ug/m3	0.048	83	0.048	--	0.076	0.069	0.069	0.069	0.082	0.069	0.069	0.076	0.069	0.069	0.069	0.069	0.076	0.069	0.076	0.082	0.076
1,1,2-Trichloroethane	ug/m3	--	--	0.18	0.21	0.06	0.055	0.055	0.055	0.065	0.055	0.055	0.06	0.055	0.055	0.055	0.055	0.06	0.055	0.06	0.065	0.06
1,1-Dichloroethane	ug/m3	1.8	830	1.8	--	0.045	0.04	0.04	0.04	0.049	0.04	0.04	0.045	0.04	0.04	0.04	0.04	0.045	0.04	0.045	0.049	0.045
1,1-Dichloroethene	ug/m3	--	73	--	4.1	0.044	0.04	0.04	0.04	0.048	0.04	0.04	0.044	0.04	0.04	0.04	0.04	0.044	0.04	0.044	0.048	0.044
1,2,4-Trichlorobenzene	ug/m3	0.38	2.1	--	2.1	0.082	0.074	0.074	0.074	0.089	0.074	0.074	0.082	0.074	0.074	0.074	0.074	0.082	0.074	0.082	0.089	0.082
1,2,4-Trimethylbenzene	ug/m3	--	--	--	63	**0.3**	**0.37**	**0.24**	**0.29**	**0.29**	**0.26**	**0.29**	**0.27**	**0.29**	**0.5**	**0.3**	**0.32**	**0.35**	**0.27**	**0.33**	**0.44**	**0.3**
1,2-Dibromoethane	ug/m3	--	0.83	0.0047	9.4	0.085	0.077	0.077	0.077	0.092	0.077	0.077	0.085	0.077	0.077	0.077	0.077	0.085	0.077	0.085	0.092	0.085
1,2-Dichlorobenzene	ug/m3	--	--	--	210	0.066	0.06	0.06	0.06	0.072	0.06	0.06	0.066	0.06	0.06	0.06	0.06	0.066	0.06	0.066	0.072	0.066
1,2-Dichloroethane	ug/m3	--	--	0.11	7.3	**0.063**	**0.066**	**0.062**	**0.062**	**0.061**	**0.062**	**0.061**	**0.062**	**0.063**	**0.072**	**0.061**	**0.062**	**0.065**	**0.063**	**0.062**	**0.062**	**0.067**
1,2-Dichloropropane	ug/m3	--	--	0.76	4.2	0.051	0.046	0.046	0.046	0.055	0.046	0.046	0.051	0.046	0.046	0.046	0.046	0.051	0.046	0.051	0.055	0.051
1,3,5-Trimethylbenzene	ug/m3	--	--	--	63	**0.074**	**0.1**	**0.055**	**0.065**	**0.074**	**0.065**	**0.065**	**0.061**	**0.068**	**0.14**	**0.073**	**0.074**	**0.085**	**0.067**	**0.085**	**0.11**	**0.081**
1,3-Dichlorobenzene	ug/m3	--	--	--	--	0.066	0.06	0.06	0.06	0.072	0.06	0.06	0.066	0.06	0.06	0.06	0.06	0.066	0.06	0.066	0.072	0.066
1,4-Dichlorobenzene	ug/m3	--	--	0.26	830	0.066	0.06	0.06	0.06	0.072	0.06	0.06	0.066	0.06	0.06	0.06	0.06	0.066	0.06	0.066	0.072	0.066
2-Chlorotoluene	ug/m3	--	83	--	--	0.057	0.052	0.052	0.052	0.062	0.052	0.052	0.057	0.052	0.052	0.052	0.052	0.057	0.052	0.057	0.062	0.057
Benzene	ug/m3	0.097	3.1	0.36	31	**0.8**	**0.83**	**0.72**	**0.74**	**3.2**	**0.74**	**0.72**	**0.74**	**0.81**	**0.99**	**0.78**	**0.85**	**0.89**	**0.78**	**0.82**	**0.79**	**1**
Benzyl chloride	ug/m3	--	--	0.057	1	0.057	0.052	0.052	0.052	0.062	0.052	0.052	0.057	0.052	0.052	0.052	0.052	0.057	0.052	0.057	0.062	0.057
Bromodichloromethane	ug/m3	0.076	83	0.076	--	0.074	0.067	0.067	0.067	0.08	0.067	0.067	0.074	0.067	0.067	0.067	0.067	0.074	0.067	0.074	0.08	0.074
Bromoform	ug/m3	2.6	83	2.6	--	0.11	0.1	0.1	0.1	0.12	0.1	0.1	0.11	0.1	0.1	0.1	0.1	0.11	0.1	0.11	0.12	0.11
Bromomethane	ug/m3	--	--	--	5.2	**0.08**	**0.084**	**0.082**	**0.075**	**0.084**	**0.081**	**0.085**	**0.08**	**0.092**	**0.083**	**0.089**	**0.081**	**0.083**	**0.085**	**0.084**	**0.11**	**0.08**
Carbon Tetrachloride	ug/m3	0.47	42	0.47	100	**0.46**	**0.45**	**0.47**	**0.47**	**0.46**	**0.47**	**0.46**	**0.47**	**0.47**	**0.46**	**0.47**	**0.46**	**0.46**	**0.46**	**0.46**	**0.47**	**0.45**
Chlorobenzene	ug/m3	--	--	--	52	0.051	0.046	0.046	0.046	0.055	0.046	0.046	0.051	0.046	0.046	0.046	0.046	0.051	0.046	0.051	0.055	0.051
Chloroethane	ug/m3	--	--	--	4200	0.029	**0.049**	0.026	0.026	0.032	**0.045**	**0.088**	**0.058**	**0.042**	0.026	**0.089**	**0.1**	0.029	0.026	**0.032**	**0.035**	**0.069**
Chloroform	ug/m3	--	--	0.12	2	**0.14**	**0.16**	**0.17**	**0.16**	**0.16**	**0.15**	**0.14**	**0.14**	**0.18**	**0.15**	**0.14**	**0.14**	**0.17**	**0.13**	**0.14**	**0.14**	**0.13**
Chloromethane	ug/m3	--	--	--	94	**0.99**	**0.99**	**1**	**1**	**1**	**1**	**0.99**	**1**	**1**	**0.98**	**1**	**1**	**1**	**1**	**1**	**1.1**	**1**
Dibromochloromethane	ug/m3	0.13	83	--	--	0.094	0.085	0.085	0.085	0.1	0.085	0.085	0.094	0.085	0.085	0.085	0.085	0.094	0.085	0.094	0.1	0.094
Ethylbenzene	ug/m3	--	--	1.1	1000	**0.27**	**0.33**	**0.25**	**0.26**	**0.26**	**0.28**	**0.26**	**0.26**	**0.27**	**0.45**	**0.27**	**0.29**	**0.31**	**0.26**	**0.3**	**0.3**	**0.31**
Freon 113	ug/m3	--	--	--	5200	**0.46**	**0.44**	**0.47**	**0.47**	**0.46**	**0.46**	**0.46**	**0.47**	**0.47**	**0.46**	**0.47**	**0.46**	**0.46**	**0.46**	**0.46**	**0.47**	**0.45**
Freon 114	ug/m3	--	--	--	--	**0.11**	**0.12**	**0.12**	**0.12**	**0.11**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.11**	**0.11**	**0.11**	**0.12**	**0.11**
Freon 12	ug/m3	--	--	--	100	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.4**	**2.3**
Hexachlorobutadiene	ug/m3	0.13	4.2	0.13	--	0.12	0.11	0.11	0.11	0.13	0.11	0.11	0.12	0.11	0.11	0.11	0.11	0.12	0.11	0.12	0.13	0.12
Methylene Chloride	ug/m3	1	420	100	630	**0.55**	**0.6**	**0.59**	**1.2**	**0.76**	**0.62**	**0.67**	**0.74**	**2.8**	**0.85**	**0.57**	**0.57**	**0.6**	**0.59**	**0.53**	**0.56**	**0.5**
Naphthalene	ug/m3	--	--	0.083	3.1	**0.059**	**0.077**	0.052	0.052	**0.074**	0.052	**0.059**	0.058	**0.078**	**0.14**	**0.086**	**0.059**	**0.12**	**0.057**	**0.072**	**0.073**	0.058
Styrene	ug/m3	--	940	--	1000	**0.1**	**0.12**	**0.076**	**0.11**	**0.13**	**0.11**	**0.12**	**0.099**	**0.12**	**0.13**	**0.13**	**0.14**	**0.32**	**0.086**	**0.13**	**0.13**	**0.18**
Tetrachloroethene	ug/m3	0.46	42	11	42	0.075	0.068	0.068	0.068	0.081	0.068	0.068	0.075	0.068	0.068	0.068	0.068	**0.08**	0.068	0.075	0.081	0.075
Toluene	ug/m3	--	310	--	5200	**1.4**	**1.5**	**1.2**	**1.4**	**5.8**	**1.6**	**1.5**	**1.5**	**1.6**	**1.3**	**1.6**	**1.9**	**2**	**1.3**	**1.7**	**1.7**	**1.8**
Trichloroethene	ug/m3	--	--	0.48	2.1	0.059	0.054	0.054	0.054	0.064	0.054	0.054	0.059	0.054	0.054	0.054	0.054	0.059	0.054	0.059	0.064	0.059
Trichlorofluoromethane	ug/m3	--	1300	--	--	**1.1**	**1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**
Vinyl Chloride	ug/m3	0.0095	100	0.17	53	0.028	0.026	0.026	0.026	0.031	0.026	0.026	0.028	0.026	0.026	0.026	0.026	0.028	0.026	0.028	0.031	0.028
Vinyl bromide	ug/m3	--	--	0.19	3.1	0.048	0.044	0.044	0.044	0.052	0.044	0.044	0.048	0.044	0.044	0.044	0.044	0.048	0.044	0.048	0.052	0.048
Xylene (total)	ug/m3	--	--	--	100	**1.1**	**1.3**	**0.99**	**1.1**	**1**	**1**	**0.99**	**0.98**	**1.1**	**1.5**	**1.1**	**1.2**	**1.3**	**1.1**	**1.2**	**1.2**	**1.3**
cis-1,2-Dichloroethene	ug/m3	--	8.3	--	42	0.044	0.04	0.04	0.04	0.048	0.04	0.04	0.044	0.04	0.04	0.04	0.04	0.044	0.04	0.044	0.048	0.044
cis-1,3-Dichloropropene	ug/m3	--	--	--	--	0.05	0.045	0.045	0.045	0.054	0.045	0.045	0.05	0.045	0.045	0.045	0.045	0.05	0.045	0.05	0.054	0.05
m,p-Xylenes	ug/m3	--	--	--	100	**0.79**	**0.9**	**0.71**	**0.76**	**0.73**	**0.74**	**0.71**	**0.7**	**0.79**	**1.2**	**0.78**	**0.83**	**0.94**	**0.75**	**0.89**	**0.88**	**0.95**
o-Xylene	ug/m3	--	--	--	100	**0.32**	**0.35**	**0.28**	**0.3**	**0.29**	**0.29**	**0.28**	**0.28**	**0.31**	**0.37**	**0.31**	**0.33**	**0.37**	**0.3**	**0.35**	**0.35**	**0.37**
trans-1,2-Dichloroethene	ug/m3	--	83	--	42	0.044	0.04	0.04	0.04	0.048	0.04	0.04	0.044	0.04	0.04	0.04	0.04	0.044	0.04	0.044	0.048	0.044
trans-1,3-Dichloropropene	ug/m3	--	--	--	--	0.05	0.045	0.045	0.045	0.054	0.045	0.045	0.05	0.045	0.045	0.045	0.045	0.05	0.045	0.05	0.054	0.05
BOLD IS DETECTED																						

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

2/14/2025

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

522442

Laboratory Report Date:

12/23/24

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

1. **Laboratory**

   a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

   Yes■ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

   Yes☐ No☐ N/A■ Comments:

2. **Chain of Custody (CoC)**

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes■ No☐ N/A☐ Comments:

   b. Correct analyses requested per approved Work Plan?

   Yes■ No☐ N/A☐ Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

   Yes■ No☐ N/A☐ Comments:

   b. If sample condition compromised, is Data quality or usability affected?

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes☒ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes☒ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

No issues encountered

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No☒ N/A☐ Comments:

None of the analytes are related to petroleum hydrocarbons

Laboratory Report Number:

522442

Laboratory Report Date:

12/23/24

Provide an explanation in comment box for any N/A or No box checked.

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

522442

Laboratory Report Date:

12/23/24

Provide an explanation in comment box for any N/A or No box checked.

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes☒ No☐ N/A☐ Comments:

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

12-11-2024

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

2416404

Laboratory Report Date:

11/11/2024

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

1. Laboratory

a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

Yes■ No☐ N/A☐ Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

Yes☐ No☐ N/A■ Comments:

2. Chain of Custody (CoC)

a. CoC information completed, signed, and dated (including released/received by)?

Yes■ No☐ N/A☐ Comments:

b. Correct analyses requested per approved Work Plan?

Yes■ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

Yes■ No☐ N/A☐ Comments:

b. If sample condition compromised, is Data quality or usability affected?

WB07-1H was received fully evacuated and could not be analyzed.

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

4. Case Narrative

a. Present and understandable?

Yes■ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes■ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes■ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

WB07-1H was received fully evacuated and could not be analyzed

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes■ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes■ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No■ N/A☐ Comments:

See attached.benzene and naphtalene had detections and are not affected. all others are non-petroleum hydrocarbons

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

2416404

Laboratory Report Date:

11/11/2024

Provide an explanation in comment box for any N/A or No box checked.

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes☒ No☐ N/A☐ Comments:

ANALYTE	*dtscC*	*dtscNC*	*RSLc*	*RSLnc*	UNITS	WB01	WB02	WB03	WB04	WB05	WB06	WB07	WB08	WB09	WB10	WB11	WB12	WB13	WB14	WB17	WB18
1,1,1-Trichloroethane	--	1000	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloroethane	--	--	0.18	0.21	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1-Dichloroethane	1.8	830	1.8	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Dichloroethene	--	73	--	4.1	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Difluoroethane	--	--	--	--	ug/m3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1,2-Dibromoethane	--	0.83	0.0047	9.4	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichlorobenzene	--	--	--	210	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichloroethane	--	--	0.11	7.3	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,3-Dichlorobenzene	--	--	--	--	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,4-Dichlorobenzene	--	--	0.26	830	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Benzene	0.097	3.1	0.36	31	ug/m3	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzyl chloride	--	--	0.057	1	ug/m3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Carbon tetrachloride	0.47	42	0.47	100	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chlorobenzene	--	--	--	52	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chloroform	--	--	0.12	2	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
cis-1,2-Dichloroethene	--	8.3	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Dichlorodifluoromethane	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Ethylbenzene	--	--	1.1	1000	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Naphthalene	--	--	0.083	3.1	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
o-Xylene	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
p- & m-Xylenes	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Tetrachloroethene	0.46	42	11	42	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Toluene	--	310	--	5200	ug/m3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Xylenes	--	--	--	100	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
trans-1,2-Dichloroethene	--	83	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
trans-1,3-Dichloropropene	--	--	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Trichloroethene	--	--	0.48	2.1	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Trichlorofluoromethane	--	1300	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Vinyl chloride	0.0095	100	0.17	53	ug/m3	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

12-11-2024

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

2416470

Laboratory Report Date:

11/11/2024

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

1. **Laboratory**

   a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

   Yes■ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

   Yes☐ No☐ N/A■ Comments:

2. **Chain of Custody (CoC)**

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes■ No☐ N/A☐ Comments:

   b. Correct analyses requested per approved Work Plan?

   Yes■ No☐ N/A☐ Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

   Yes■ No☐ N/A☐ Comments:

   b. If sample condition compromised, is Data quality or usability affected?

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes☒ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes☒ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

No issues noted

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No☒ N/A☐ Comments:

See attached.benzene and naphtalene had detections and are not affected. all others are non-petroleum hydrocarbons

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes■ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes■ No☐ N/A☐ Comments:

ANALYTE	*dtscC*	*dtscNC*	*RSLc*	*RSLnc*	UNITS	WB01	WB02	WB03	WB04	WB05	WB06	WB07	WB08	WB09	WB10	WB11	WB12	WB13	WB14	WB17	WB18
1,1,1-Trichloroethane	--	1000	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloroethane	--	--	0.18	0.21	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1-Dichloroethane	1.8	830	1.8	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Dichloroethene	--	73	--	4.1	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Difluoroethane	--	--	--	--	ug/m3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1,2-Dibromoethane	--	0.83	0.0047	9.4	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichlorobenzene	--	--	--	210	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichloroethane	--	--	0.11	7.3	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,3-Dichlorobenzene	--	--	--	--	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,4-Dichlorobenzene	--	--	0.26	830	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Benzene	0.097	3.1	0.36	31	ug/m3	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzyl chloride	--	--	0.057	1	ug/m3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Carbon tetrachloride	0.47	42	0.47	100	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chlorobenzene	--	--	--	52	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chloroform	--	--	0.12	2	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
cis-1,2-Dichloroethene	--	8.3	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Dichlorodifluoromethane	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Ethylbenzene	--	--	1.1	1000	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Naphthalene	--	--	0.083	3.1	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
o-Xylene	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
p- & m-Xylenes	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Tetrachloroethene	0.46	42	11	42	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Toluene	--	310	--	5200	ug/m3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Xylenes	--	--	--	100	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
trans-1,2-Dichloroethene	--	83	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
trans-1,3-Dichloropropene	--	--	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Trichloroethene	--	--	0.48	2.1	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Trichlorofluoromethane	--	1300	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Vinyl chloride	0.0095	100	0.17	53	ug/m3	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Appendix C

Dixon's Outlier Test for Benzene

ProUCL Dixon's Outlier Test Bezene
Proposed Walnut Bluff Development

Outlier Tests for Selected Uncensored Variables

User Selected Options

Date/Time of Computation	ProUCL 5.2 12/8/2024 7:01:51 AM
From File	WorkSheet.xls
Full Precision	OFF

Dixon's Outlier Test for C0

Number of Observations = 14
10% critical value: 0.492
5% critical value: 0.546
1% critical value: 0.641

1. Observation Value 3.2 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.939

For 10% significance level, 3.2 is an outlier.
For 5% significance level, 3.2 is an outlier.
For 1% significance level, 3.2 is an outlier.

ProUCL Dixon's Outlier Test Toluene
Proposed Walnut Bluff Development

Outlier Tests for Selected Uncensored Variables

User Selected Options

Date/Time of Computation	ProUCL 5.2 12/8/2024 7:01:51 AM
From File	WorkSheet.xls
Full Precision	OFF

Dixon's Outlier Test for C0

Number of Observations = 14
10% critical value: 0.492
5% critical value: 0.546
1% critical value: 0.641

1. Observation Value 5.8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.867

For 10% significance level, 5.8 is an outlier.
For 5% significance level, 5.8 is an outlier.
For 1% significance level, 5.8 is an outlier.

Appendix D

Assessment Of Potential Human Health Risks ProUCL Outputs

Appendix D
ProUCL Output for 95% UCLs
Proposed Walnut Bluff Development

UCL Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.2 10/23/2024 12:00:19 PM
From File	14D-ProUCLinput.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operation	2000

1,2,4-Trimethylbenzene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.24	Mean	0.31
Maximum	0.5	Median	0.29
SD	0.0643	Std. Error of Mean	0.0172
Coefficient of Variation	0.208	Skewness	2.194

Normal GOF Test

Shapiro Wilk Test Statistic	0.771	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.276	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.34	95% Adjusted-CLT UCL (Chen-1995)	0.349
		95% Modified-t UCL (Johnson-1978)	0.342

Gamma GOF Test

A-D Test Statistic	0.923	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.734	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.262	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	30.29	k star (bias corrected MLE)	23.84
Theta hat (MLE)	0.0102	Theta star (bias corrected MLE)	0.013
nu hat (MLE)	848	nu star (bias corrected)	667.6
MLE Mean (bias corrected)	0.31	MLE Sd (bias corrected)	0.0635
		Approximate Chi Square Value (0.05)	608.7
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	601.2

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.34	95% Adjusted Gamma UCL	0.344

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.855	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.25	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.427	Mean of logged Data	-1.188
Maximum of Logged Data	-0.693	SD of logged Data	0.181

Assuming Lognormal Distribution

95% H-UCL	0.339	90% Chebyshev (MVUE) UCL	0.355
95% Chebyshev (MVUE) UCL	0.375	97.5% Chebyshev (MVUE) UCL	0.404
99% Chebyshev (MVUE) UCL	0.459		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs			
95% CLT UCL	0.338	95% BCA Bootstrap UCL	0.349
95% Standard Bootstrap UCL	0.338	95% Bootstrap-t UCL	0.365
95% Hall's Bootstrap UCL	0.472	95% Percentile Bootstrap UCL	0.34
90% Chebyshev(Mean, Sd) UCL	0.362	95% Chebyshev(Mean, Sd) UCL	0.385
97.5% Chebyshev(Mean, Sd) UCL	0.417	99% Chebyshev(Mean, Sd) UCL	0.481

Suggested UCL to Use	
95% Student's-t UCL	0.34

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

1,2-Dichloroethane

General Statistics			
Total Number of Observations	14	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	0.061	Mean	0.0632
Maximum	0.072	Median	0.062
SD	0.00291	Std. Error of Mean	7.79E-04
Coefficient of Variation	0.0461	Skewness	2.409

Normal GOF Test			
Shapiro Wilk Test Statistic	0.701	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.315	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.0646	95% Adjusted-CLT UCL (Chen-1995)	0.065

		95% Modified-t UCL (Johnson-1978)	0.0647

Gamma GOF Test			
A-D Test Statistic	1.49	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.311	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	537.9	k star (bias corrected MLE)	422.7
Theta hat (MLE)	1.18E-04	Theta star (bias corrected MLE)	1.50E-04
nu hat (MLE)	15060	nu star (bias corrected)	11834
MLE Mean (bias corrected)	0.0632	MLE Sd (bias corrected)	0.00307
		Approximate Chi Square Value (0.05)	11582
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	11549

Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0646	95% Adjusted Gamma UCL	0.0648

Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.719	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.308	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			

Lognormal Statistics			
Minimum of Logged Data	-2.797	Mean of logged Data	-2.762
Maximum of Logged Data	-2.631	SD of logged Data	0.0441

Assuming Lognormal Distribution			
95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.0654
95% Chebyshev (MVUE) UCL	0.0665	97.5% Chebyshev (MVUE) UCL	0.0679
99% Chebyshev (MVUE) UCL	0.0706		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0645	95% BCA Bootstrap UCL	0.0649
95% Standard Bootstrap UCL	0.0645	95% Bootstrap-t UCL	0.0662
95% Hall's Bootstrap UCL	0.0698	95% Percentile Bootstrap UCL	0.0646
90% Chebyshev(Mean, Sd) UCL	0.0656	95% Chebyshev(Mean, Sd) UCL	0.0666
97.5% Chebyshev(Mean, Sd) UCL	0.0681	99% Chebyshev(Mean, Sd) UCL	0.071

Suggested UCL to Use

95% Student's-t UCL	0.0646

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

1,3,5-Trimethylbenzene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	0.055	Mean	0.0761
Maximum	0.14	Median	0.0705
SD	0.0214	Std. Error of Mean	0.00572
Coefficient of Variation	0.281	Skewness	2.35

Normal GOF Test

Shapiro Wilk Test Statistic	0.729	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.326	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.0863	95% Adjusted-CLT UCL (Chen-1995)	0.0894
		95% Modified-t UCL (Johnson-1978)	0.0869

Gamma GOF Test

A-D Test Statistic	1.104	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.734	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.302	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	17.71	k star (bias corrected MLE)	13.97
Theta hat (MLE)	0.0043	Theta star (bias corrected MLE)	0.00545
nu hat (MLE)	496	nu star (bias corrected)	391.1
MLE Mean (bias corrected)	0.0761	MLE Sd (bias corrected)	0.0204
		Approximate Chi Square Value (0.05)	346.2
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	340.6

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.086	95% Adjusted Gamma UCL	0.0874

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.834	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.286	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.9	Mean of logged Data	-2.604
Maximum of Logged Data	-1.966	SD of logged Data	0.234

Assuming Lognormal Distribution

95% H-UCL	0.0857	90% Chebyshev (MVUE) UCL	0.0902
95% Chebyshev (MVUE) UCL	0.0967	97.5% Chebyshev (MVUE) UCL	0.106

99% Chebyshev (MVUE) UCL	0.123

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0855	95% BCA Bootstrap UCL	0.0896
95% Standard Bootstrap UCL	0.0853	95% Bootstrap-t UCL	0.0993
95% Hall's Bootstrap UCL	0.132	95% Percentile Bootstrap UCL	0.0861
90% Chebyshev(Mean, Sd) UCL	0.0933	95% Chebyshev(Mean, Sd) UCL	0.101
97.5% Chebyshev(Mean, Sd) UCL	0.112	99% Chebyshev(Mean, Sd) UCL	0.133

Suggested UCL to Use

95% Student's-t UCL	0.0863

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzene

General Statistics

Total Number of Observations	13	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.72	Mean	0.799
Maximum	0.99	Median	0.78
SD	0.0775	Std. Error of Mean	0.0215
Coefficient of Variation	0.097	Skewness	1.315

Normal GOF Test

Shapiro Wilk Test Statistic	0.88	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.162	Lilliefors GOF Test
1% Lilliefors Critical Value	0.271	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.838	95% Adjusted-CLT UCL (Chen-1995)	0.843
		95% Modified-t UCL (Johnson-1978)	0.839

Gamma GOF Test

A-D Test Statistic	0.477	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.732	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.176	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.236	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	122.4	k star (bias corrected MLE)	94.22
Theta hat (MLE)	0.00653	Theta star (bias corrected MLE)	0.00848
nu hat (MLE)	3183	nu star (bias corrected)	2450
MLE Mean (bias corrected)	0.799	MLE Sd (bias corrected)	0.0823
		Approximate Chi Square Value (0.05)	2336
Adjusted Level of Significance	0.0301	Adjusted Chi Square Value	2320

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.838	95% Adjusted Gamma UCL	0.844

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Lognormal GOF Test
10% Shapiro Wilk Critical Value	0.889	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.169	Lilliefors Lognormal GOF Test
10% Lilliefors Critical Value	0.215	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.329	Mean of logged Data	-0.228
Maximum of Logged Data	-0.0101	SD of logged Data	0.0928

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.861
95% Chebyshev (MVUE) UCL	0.889	97.5% Chebyshev (MVUE) UCL	0.928
99% Chebyshev (MVUE) UCL	1.004		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.835	95% BCA Bootstrap UCL	0.843
95% Standard Bootstrap UCL	0.833	95% Bootstrap-t UCL	0.852
95% Hall's Bootstrap UCL	0.863	95% Percentile Bootstrap UCL	0.835
90% Chebyshev(Mean, Sd) UCL	0.864	95% Chebyshev(Mean, Sd) UCL	0.893
97.5% Chebyshev(Mean, Sd) UCL	0.933	99% Chebyshev(Mean, Sd) UCL	1.013

Suggested UCL to Use
95% Student's-t UCL 0.838

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Bromomethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.075	Mean	0.0831
Maximum	0.092	Median	0.083
SD	0.00409	Std. Error of Mean	0.00109
Coefficient of Variation	0.0492	Skewness	0.375

Normal GOF Test

Shapiro Wilk Test Statistic	0.95	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.182	Lilliefors GOF Test	

1% Lilliefors Critical Value	0.263	Data appear Normal at 1% Significance Level	
Data appear Normal at 1% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.0851	95% Adjusted-CLT UCL (Chen-1995)	0.0851
		95% Modified-t UCL (Johnson-1978)	0.0851
Gamma GOF Test			
A-D Test Statistic	0.375	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.171	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	447.7	k star (bias corrected MLE)	351.8
Theta hat (MLE)	1.86E-04	Theta star (bias corrected MLE)	2.36E-04
nu hat (MLE)	12534	nu star (bias corrected)	9850
MLE Mean (bias corrected)	0.0831	MLE Sd (bias corrected)	0.00443
		Approximate Chi Square Value (0.05)	9620
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	9590
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0851	95% Adjusted Gamma UCL	0.0854
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.954	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.175	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data appear Lognormal at 10% Significance Level	
Data appear Lognormal at 10% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-2.59	Mean of logged Data	-2.488
Maximum of Logged Data	-2.386	SD of logged Data	0.049

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.0864
95% Chebyshev (MVUE) UCL	0.0879	97.5% Chebyshev (MVUE) UCL	0.0899
99% Chebyshev (MVUE) UCL	0.094		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0849	95% BCA Bootstrap UCL	0.085
95% Standard Bootstrap UCL	0.0849	95% Bootstrap-t UCL	0.0853
95% Hall's Bootstrap UCL	0.0857	95% Percentile Bootstrap UCL	0.0849
90% Chebyshev(Mean, Sd) UCL	0.0864	95% Chebyshev(Mean, Sd) UCL	0.0879
97.5% Chebyshev(Mean, Sd) UCL	0.09	99% Chebyshev(Mean, Sd) UCL	0.094

Suggested UCL to Use

95% Student's-t UCL	0.0851

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Carbon Tetrachloride

General Statistics

Total Number of Observations	14	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.45	Mean	0.464
Maximum	0.47	Median	0.46
SD	0.00633	Std. Error of Mean	0.00169
Coefficient of Variation	0.0137	Skewness	-0.433

Normal GOF Test

Shapiro Wilk Test Statistic	0.771	Shapiro Wilk GOF Test	

1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.285	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.467	95% Adjusted-CLT UCL (Chen-1995)	0.466
		95% Modified-t UCL (Johnson-1978)	0.467
Gamma GOF Test			
A-D Test Statistic	1.727	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.319	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	5749	k star (bias corrected MLE)	4517
Theta hat (MLE)	8.06E-05	Theta star (bias corrected MLE)	1.03E-04
nu hat (MLE)	160985	nu star (bias corrected)	126489
MLE Mean (bias corrected)	0.464	MLE Sd (bias corrected)	0.0069
		Approximate Chi Square Value (0.05)	125663
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	125554
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.467	95% Adjusted Gamma UCL	0.467
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.771	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.283	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			
Lognormal Statistics			

Minimum of Logged Data	-0.799	Mean of logged Data	-0.769
Maximum of Logged Data	-0.755	SD of logged Data	0.0137

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.469
95% Chebyshev (MVUE) UCL	0.471	97.5% Chebyshev (MVUE) UCL	0.474
99% Chebyshev (MVUE) UCL	0.48		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.466	95% BCA Bootstrap UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
90% Chebyshev(Mean, Sd) UCL	0.469	95% Chebyshev(Mean, Sd) UCL	0.471
97.5% Chebyshev(Mean, Sd) UCL	0.474	99% Chebyshev(Mean, Sd) UCL	0.48

Suggested UCL to Use

95% Student's-t UCL	0.467

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Chloroethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	10
Number of Detects	7	Number of Non-Detects	7
Number of Distinct Detects	7	Number of Distinct Non-Detects	3
Minimum Detect	0.042	Minimum Non-Detect	0.026
Maximum Detect	0.1	Maximum Non-Detect	0.032

Variance Detects	5.88E-04	Percent Non-Detects	50%
Mean Detects	0.0673	SD Detects	0.0242
Median Detects	0.058	CV Detects	0.36
Skewness Detects	0.327	Kurtosis Detects	-2.259
Mean of Logged Detects	-2.755	SD of Logged Detects	0.363

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.856	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.73	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.232	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0466	KM Standard Error of Mean	0.00752
90KM SD	0.026	95% KM (BCA) UCL	0.0585
95% KM (t) UCL	0.06	95% KM (Percentile Bootstrap) UCL	0.0579
95% KM (z) UCL	0.059	95% KM Bootstrap t UCL	0.0606
90% KM Chebyshev UCL	0.0692	95% KM Chebyshev UCL	0.0794
97.5% KM Chebyshev UCL	0.0936	99% KM Chebyshev UCL	0.121

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.543	Anderson-Darling GOF Test	
5% A-D Critical Value	0.709	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.258	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.312	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	9.027	k star (bias corrected MLE)	5.253
Theta hat (MLE)	0.00745	Theta star (bias corrected MLE)	0.0128
nu hat (MLE)	126.4	nu star (bias corrected)	73.55
Mean (detects)	0.0673		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.0406
Maximum	0.1	Median	0.0332
SD	0.0325	CV	0.801
k hat (MLE)	1.603	k star (bias corrected MLE)	1.307
Theta hat (MLE)	0.0253	Theta star (bias corrected MLE)	0.031
nu hat (MLE)	44.88	nu star (bias corrected)	36.59
Adjusted Level of Significance (β)	0.0312		
Approximate Chi Square Value (36.59, α)	23.75	Adjusted Chi Square Value (36.59, β)	22.38
95% Gamma Approximate UCL	0.0625	95% Gamma Adjusted UCL	0.0663

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0466	SD (KM)	0.026
Variance (KM)	6.78E-04	SE of Mean (KM)	0.00752
k hat (KM)	3.208	k star (KM)	2.568
nu hat (KM)	89.83	nu star (KM)	71.92
theta hat (KM)	0.0145	theta star (KM)	0.0182
80% gamma percentile (KM)	0.0678	90% gamma percentile (KM)	0.0856
95% gamma percentile (KM)	0.102	99% gamma percentile (KM)	0.139

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (71.92, α)	53.39	Adjusted Chi Square Value (71.92, β)	51.28
95% KM Approximate Gamma UCL	0.0628	95% KM Adjusted Gamma UCL	0.0654

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.869	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.243	Lilliefors GOF Test
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level

Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0452	Mean in Log Scale	-3.275
SD in Original Scale	0.0285	SD in Log Scale	0.617
95% t UCL (assumes normality of ROS data)	0.0587	95% Percentile Bootstrap UCL	0.0573
95% BCA Bootstrap UCL	0.0583	95% Bootstrap t UCL	0.0631
95% H-UCL (Log ROS)	0.067		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-3.202	KM Geo Mean	0.0407
KM SD (logged)	0.507	95% Critical H Value (KM-Log)	2.016
KM Standard Error of Mean (logged)	0.146	95% H-UCL (KM -Log)	0.0614
KM SD (logged)	0.507	95% Critical H Value (KM-Log)	2.016
KM Standard Error of Mean (logged)	0.146		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0406	Mean in Log Scale	-3.519
SD in Original Scale	0.0323	SD in Log Scale	0.832
95% t UCL (Assumes normality)	0.0558	95% H-Stat UCL	0.075

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics
Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.06

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chloroform

General Statistics

Total Number of Observations	14	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	0.13	Mean	0.152
Maximum	0.18	Median	0.15
SD	0.0148	Std. Error of Mean	0.00395
Coefficient of Variation	0.0971	Skewness	0.408

Normal GOF Test

Shapiro Wilk Test Statistic	0.922	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.223	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.159	95% Adjusted-CLT UCL (Chen-1995)	0.159
		95% Modified-t UCL (Johnson-1978)	0.159

Gamma GOF Test

A-D Test Statistic	0.58	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.232	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	116.1	k star (bias corrected MLE)	91.26
Theta hat (MLE)	0.00131	Theta star (bias corrected MLE)	0.00167
nu hat (MLE)	3250	nu star (bias corrected)	2555
MLE Mean (bias corrected)	0.152	MLE Sd (bias corrected)	0.0159
		Approximate Chi Square Value (0.05)	2439
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	2424

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.159	95% Adjusted Gamma UCL	0.16

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.926	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.223	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data appear Approximate Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.04	Mean of logged Data	-1.887
Maximum of Logged Data	-1.715	SD of logged Data	0.0961

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.164
95% Chebyshev (MVUE) UCL	0.169	97.5% Chebyshev (MVUE) UCL	0.177
99% Chebyshev (MVUE) UCL	0.191		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.159	95% BCA Bootstrap UCL	0.158
95% Standard Bootstrap UCL	0.158	95% Bootstrap-t UCL	0.159
95% Hall's Bootstrap UCL	0.159	95% Percentile Bootstrap UCL	0.159
90% Chebyshev(Mean, Sd) UCL	0.164	95% Chebyshev(Mean, Sd) UCL	0.169
97.5% Chebyshev(Mean, Sd) UCL	0.177	99% Chebyshev(Mean, Sd) UCL	0.191

Suggested UCL to Use

95% Student's-t UCL	0.159

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chloromethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.98	Mean	0.996
Maximum	1	Median	1
SD	0.00633	Std. Error of Mean	0.00169
Coefficient of Variation	0.00636	Skewness	-1.687

Normal GOF Test

Shapiro Wilk Test Statistic	0.627	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.428	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.999	95% Adjusted-CLT UCL (Chen-1995)	0.998
		95% Modified-t UCL (Johnson-1978)	0.999

Gamma GOF Test

A-D Test Statistic	2.73	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.435	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	26494	k star (bias corrected MLE)	20816
Theta hat (MLE)	3.76E-05	Theta star (bias corrected MLE)	4.79E-05
nu hat (MLE)	741822	nu star (bias corrected)	582861
MLE Mean (bias corrected)	0.996	MLE Sd (bias corrected)	0.00691
		Approximate Chi Square Value (0.05)	581087
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	580851

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.999	95% Adjusted Gamma UCL	1

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.627	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.428	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.0202	Mean of logged Data	-0.0036
Maximum of Logged Data	0	SD of logged Data	0.00639

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	1.002
95% Chebyshev (MVUE) UCL	1.004	97.5% Chebyshev (MVUE) UCL	1.007
99% Chebyshev (MVUE) UCL	1.013		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.999	95% BCA Bootstrap UCL	N/A	
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A	
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A	
90% Chebyshev(Mean, Sd) UCL	1.002	95% Chebyshev(Mean, Sd) UCL		1.004
97.5% Chebyshev(Mean, Sd) UCL	1.007	99% Chebyshev(Mean, Sd) UCL		1.013

Suggested UCL to Use

95% Student's-t UCL	0.999

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Ethylbenzene

General Statistics			
Total Number of Observations	14	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	0.25	Mean	0.287
Maximum	0.45	Median	0.27
SD	0.0518	Std. Error of Mean	0.0138
Coefficient of Variation	0.18	Skewness	2.739

Normal GOF Test			
Shapiro Wilk Test Statistic	0.638	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.273	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.312	95% Adjusted-CLT UCL (Chen-1995)	0.321
		95% Modified-t UCL (Johnson-1978)	0.313

Gamma GOF Test			
A-D Test Statistic	1.694	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.276	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	41.34	k star (bias corrected MLE)	32.53
Theta hat (MLE)	0.00695	Theta star (bias corrected MLE)	0.00883

nu hat (MLE)	1158	nu star (bias corrected)	910.9
MLE Mean (bias corrected)	0.287	MLE Sd (bias corrected)	0.0503
		Approximate Chi Square Value (0.05)	841.8
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	833

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.311	95% Adjusted Gamma UCL	0.314

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.7	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.269	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.386	Mean of logged Data	-1.26
Maximum of Logged Data	-0.799	SD of logged Data	0.153

Assuming Lognormal Distribution

95% H-UCL	0.31	90% Chebyshev (MVUE) UCL	0.322
95% Chebyshev (MVUE) UCL	0.338	97.5% Chebyshev (MVUE) UCL	0.36
99% Chebyshev (MVUE) UCL	0.404		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.31	95% BCA Bootstrap UCL	0.321
95% Standard Bootstrap UCL	0.309	95% Bootstrap-t UCL	0.35
95% Hall's Bootstrap UCL	0.396	95% Percentile Bootstrap UCL	0.311
90% Chebyshev(Mean, Sd) UCL	0.329	95% Chebyshev(Mean, Sd) UCL	0.347
97.5% Chebyshev(Mean, Sd) UCL	0.374	99% Chebyshev(Mean, Sd) UCL	0.425

Suggested UCL to Use

95% Student's-t UCL	0.312

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Freon 113

General Statistics

Total Number of Observations	14	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.44	Mean	0.462
Maximum	0.47	Median	0.46
SD	0.00802	Std. Error of Mean	0.00214
Coefficient of Variation	0.0173	Skewness	-1.482

Normal GOF Test

Shapiro Wilk Test Statistic	0.723	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.323	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.466	95% Adjusted-CLT UCL (Chen-1995)	0.465
		95% Modified-t UCL (Johnson-1978)	0.466

Gamma GOF Test

A-D Test Statistic	1.592	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.297	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	3524	k star (bias corrected MLE)	2769
Theta hat (MLE)	1.31E-04	Theta star (bias corrected MLE)	1.67E-04
nu hat (MLE)	98661	nu star (bias corrected)	77521
MLE Mean (bias corrected)	0.462	MLE Sd (bias corrected)	0.00878
		Approximate Chi Square Value (0.05)	76874
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	76789

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.466	95% Adjusted Gamma UCL	0.467

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.718	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.327	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.821	Mean of logged Data	-0.772
Maximum of Logged Data	-0.755	SD of logged Data	0.0176

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.469
95% Chebyshev (MVUE) UCL	0.472	97.5% Chebyshev (MVUE) UCL	0.476
99% Chebyshev (MVUE) UCL	0.484		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.466	95% BCA Bootstrap UCL	N/A	
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A	
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A	
90% Chebyshev(Mean, Sd) UCL	0.469	95% Chebyshev(Mean, Sd) UCL		0.471
97.5% Chebyshev(Mean, Sd) UCL	0.476	99% Chebyshev(Mean, Sd) UCL		0.483

Suggested UCL to Use
95% Student's-t UCL 0.466

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Freon 114

General Statistics

Total Number of Observations	14	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	0.11	Mean	0.117
Maximum	0.12	Median	0.12
SD	0.00469	Std. Error of Mean	0.00125
Coefficient of Variation	0.04	Skewness	-1.067

Normal GOF Test

Shapiro Wilk Test Statistic	0.576	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.443	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.119	95% Adjusted-CLT UCL (Chen-1995)	0.119
		95% Modified-t UCL (Johnson-1978)	0.119

Gamma GOF Test

A-D Test Statistic	3.136	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level

K-S Test Statistic	0.451	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	655.6	k star (bias corrected MLE)	515.2
Theta hat (MLE)	1.79E-04	Theta star (bias corrected MLE)	2.27E-04
nu hat (MLE)	18357	nu star (bias corrected)	14425
MLE Mean (bias corrected)	0.117	MLE Sd (bias corrected)	0.00516
		Approximate Chi Square Value (0.05)	14147
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	14110

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.119	95% Adjusted Gamma UCL	0.12

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.576	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.443	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			

Lognormal Statistics

Minimum of Logged Data	-2.207	Mean of logged Data	-2.145
Maximum of Logged Data	-2.12	SD of logged Data	0.0408

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.121
95% Chebyshev (MVUE) UCL	0.123	97.5% Chebyshev (MVUE) UCL	0.125
99% Chebyshev (MVUE) UCL	0.13		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.119	95% BCA Bootstrap UCL	N/A

95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
90% Chebyshev(Mean, Sd) UCL	0.121	95% Chebyshev(Mean, Sd) UCL	0.123
97.5% Chebyshev(Mean, Sd) UCL	0.125	99% Chebyshev(Mean, Sd) UCL	0.13

Suggested UCL to Use

95% Student's-t UCL	0.119

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Freon 12

General Statistics

Total Number of Observations	14	Number of Distinct Observations	1
		Number of Missing Observations	0
Minimum	2.3	Mean	2.3
Maximum	2.3	Median	2.3

Warning: There is only one distinct observation value in this data set - resulting in '0' variance!
ProUCL (or any other software) should not be used on such a data set!
The data set for variable Freon 12 was not processed!

If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

m,p-Xylenes

General Statistics

Total Number of Observations	14	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	0.7	Mean	0.809
Maximum	1.2	Median	0.77
SD	0.133	Std. Error of Mean	0.0354
Coefficient of Variation	0.164	Skewness	2.237

Normal GOF Test			
Shapiro Wilk Test Statistic	0.747	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.272	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.872	95% Adjusted-CLT UCL (Chen-1995)	0.89
		95% Modified-t UCL (Johnson-1978)	0.876

Gamma GOF Test			
A-D Test Statistic	1.041	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.261	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	47.37	k star (bias corrected MLE)	37.27
Theta hat (MLE)	0.0171	Theta star (bias corrected MLE)	0.0217
nu hat (MLE)	1326	nu star (bias corrected)	1043
MLE Mean (bias corrected)	0.809	MLE Sd (bias corrected)	0.133
		Approximate Chi Square Value (0.05)	969.5
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	960

Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.871	95% Adjusted Gamma UCL	0.88

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.806	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.251	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.357	Mean of logged Data	-0.222
Maximum of Logged Data	0.182	SD of logged Data	0.145

Assuming Lognormal Distribution

95% H-UCL	0.869	90% Chebyshev (MVUE) UCL	0.903
95% Chebyshev (MVUE) UCL	0.946	97.5% Chebyshev (MVUE) UCL	1.005
99% Chebyshev (MVUE) UCL	1.122		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.868	95% BCA Bootstrap UCL	0.89
95% Standard Bootstrap UCL	0.866	95% Bootstrap-t UCL	0.926
95% Hall's Bootstrap UCL	1.111	95% Percentile Bootstrap UCL	0.871
90% Chebyshev(Mean, Sd) UCL	0.916	95% Chebyshev(Mean, Sd) UCL	0.964
97.5% Chebyshev(Mean, Sd) UCL	1.031	99% Chebyshev(Mean, Sd) UCL	1.162

Suggested UCL to Use

95% Student's-t UCL	0.872

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Methylene Chloride

General Statistics

Total Number of Observations	14	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	0.55	Mean	0.836
Maximum	2.8	Median	0.61
SD	0.591	Std. Error of Mean	0.158
Coefficient of Variation	0.706	Skewness	3.26

Normal GOF Test

Shapiro Wilk Test Statistic	0.506	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.348	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.116	95% Adjusted-CLT UCL (Chen-1995)	1.243
		95% Modified-t UCL (Johnson-1978)	1.139

Gamma GOF Test

A-D Test Statistic	2.169	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.74	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.298	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.23	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	4.27	k star (bias corrected MLE)	3.403
Theta hat (MLE)	0.196	Theta star (bias corrected MLE)	0.246
nu hat (MLE)	119.6	nu star (bias corrected)	95.27
MLE Mean (bias corrected)	0.836	MLE Sd (bias corrected)	0.453
		Approximate Chi Square Value (0.05)	73.76
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	71.25

Assuming Gamma Distribution

95% Approximate Gamma UCL	1.08	95% Adjusted Gamma UCL	1.118

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.663	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.262	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.598	Mean of logged Data	-0.3
Maximum of Logged Data	1.03	SD of logged Data	0.437

Assuming Lognormal Distribution

95% H-UCL	1.038	90% Chebyshev (MVUE) UCL	1.098
95% Chebyshev (MVUE) UCL	1.229	97.5% Chebyshev (MVUE) UCL	1.411
99% Chebyshev (MVUE) UCL	1.769		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	1.096	95% BCA Bootstrap UCL	1.283
95% Standard Bootstrap UCL	1.082	95% Bootstrap-t UCL	2.143
95% Hall's Bootstrap UCL	2.094	95% Percentile Bootstrap UCL	1.116
90% Chebyshev(Mean, Sd) UCL	1.31	95% Chebyshev(Mean, Sd) UCL	1.524
97.5% Chebyshev(Mean, Sd) UCL	1.822	99% Chebyshev(Mean, Sd) UCL	2.407

Suggested UCL to Use

95% Student's-t UCL	1.116

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Naphthalene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	10
Number of Detects	10	Number of Non-Detects	4
Number of Distinct Detects	8	Number of Distinct Non-Detects	2
Minimum Detect	0.057	Minimum Non-Detect	0.052
Maximum Detect	0.14	Maximum Non-Detect	0.058
Variance Detects	7.92E-04	Percent Non-Detects	28.57%
Mean Detects	0.0809	SD Detects	0.0281
Median Detects	0.0755	CV Detects	0.348
Skewness Detects	1.375	Kurtosis Detects	1.072
Mean of Logged Detects	-2.561	SD of Logged Detects	0.311

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.809	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.781	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.241	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.304	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0727	KM Standard Error of Mean	0.00733
90KM SD	0.026	95% KM (BCA) UCL	0.0863
95% KM (t) UCL	0.0857	95% KM (Percentile Bootstrap) UCL	0.0849
95% KM (z) UCL	0.0848	95% KM Bootstrap t UCL	0.0965
90% KM Chebyshev UCL	0.0947	95% KM Chebyshev UCL	0.105
97.5% KM Chebyshev UCL	0.119	99% KM Chebyshev UCL	0.146

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.693	Anderson-Darling GOF Test	
5% A-D Critical Value	0.725	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.211	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.267	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	10.84	k star (bias corrected MLE)	7.653
Theta hat (MLE)	0.00746	Theta star (bias corrected MLE)	0.0106
nu hat (MLE)	216.8	nu star (bias corrected)	153.1
Mean (detects)	0.0809		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0128	Mean	0.0649
Maximum	0.14	Median	0.059
SD	0.0355	CV	0.547
k hat (MLE)	3.138	k star (bias corrected MLE)	2.513
Theta hat (MLE)	0.0207	Theta star (bias corrected MLE)	0.0258
nu hat (MLE)	87.86	nu star (bias corrected)	70.36
Adjusted Level of Significance (β)	0.0312		
Approximate Chi Square Value (70.36, α)	52.05	Adjusted Chi Square Value (70.36, β)	49.97
95% Gamma Approximate UCL	0.0877	95% Gamma Adjusted UCL	0.0913

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0727	SD (KM)	0.026
Variance (KM)	6.76E-04	SE of Mean (KM)	0.00733
k hat (KM)	7.821	k star (KM)	6.192
nu hat (KM)	219	nu star (KM)	173.4
theta hat (KM)	0.0093	theta star (KM)	0.0117
80% gamma percentile (KM)	0.0955	90% gamma percentile (KM)	0.112
95% gamma percentile (KM)	0.127	99% gamma percentile (KM)	0.157

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (173.39, α)	143.9	Adjusted Chi Square Value (173.39, β)	140.4
95% KM Approximate Gamma UCL	0.0876	95% KM Adjusted Gamma UCL	0.0898

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.86	Shapiro Wilk GOF Test	
10% Shapiro Wilk Critical Value	0.869	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.206	Lilliefors GOF Test	
10% Lilliefors Critical Value	0.241	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0685	Mean in Log Scale	-2.77
SD in Original Scale	0.0311	SD in Log Scale	0.434
95% t UCL (assumes normality of ROS data)	0.0832	95% Percentile Bootstrap UCL	0.0823
95% BCA Bootstrap UCL	0.0836	95% Bootstrap t UCL	0.0899
95% H-UCL (Log ROS)	0.0876		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.673	KM Geo Mean	0.0691
KM SD (logged)	0.305	95% Critical H Value (KM-Log)	1.899
KM Standard Error of Mean (logged)	0.0861	95% H-UCL (KM -Log)	0.085
KM SD (logged)	0.305	95% Critical H Value (KM-Log)	1.899
KM Standard Error of Mean (logged)	0.0861		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0654	Mean in Log Scale	-2.865
SD in Original Scale	0.0345	SD in Log Scale	0.561
95% t UCL (Assumes normality)	0.0818	95% H-Stat UCL	0.0927

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.0857

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

o-Xylene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	0.28	Mean	0.313
Maximum	0.37	Median	0.305
SD	0.0315	Std. Error of Mean	0.00841
Coefficient of Variation	0.101	Skewness	0.849

Normal GOF Test

Shapiro Wilk Test Statistic	0.876	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.179	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.328	95% Adjusted-CLT UCL (Chen-1995)	0.329
		95% Modified-t UCL (Johnson-1978)	0.328

Gamma GOF Test

A-D Test Statistic	0.588	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.169	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	110.8	k star (bias corrected MLE)	87.12
Theta hat (MLE)	0.00282	Theta star (bias corrected MLE)	0.00359
nu hat (MLE)	3103	nu star (bias corrected)	2439
MLE Mean (bias corrected)	0.313	MLE Sd (bias corrected)	0.0335

		Approximate Chi Square Value (0.05)	2326
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	2311

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.328	95% Adjusted Gamma UCL	0.33

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.89	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.162	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data appear Lognormal at 10% Significance Level	

Data appear Approximate Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.273	Mean of logged Data	-1.167
Maximum of Logged Data	-0.994	SD of logged Data	0.0977

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.337
95% Chebyshev (MVUE) UCL	0.348	97.5% Chebyshev (MVUE) UCL	0.364
99% Chebyshev (MVUE) UCL	0.394		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.327	95% BCA Bootstrap UCL	0.328
95% Standard Bootstrap UCL	0.326	95% Bootstrap-t UCL	0.331
95% Hall's Bootstrap UCL	0.328	95% Percentile Bootstrap UCL	0.326
90% Chebyshev(Mean, Sd) UCL	0.338	95% Chebyshev(Mean, Sd) UCL	0.35
97.5% Chebyshev(Mean, Sd) UCL	0.365	99% Chebyshev(Mean, Sd) UCL	0.397

Suggested UCL to Use

95% Student's-t UCL	0.328

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Styrene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.076	Mean	0.128
Maximum	0.32	Median	0.12
SD	0.0581	Std. Error of Mean	0.0155
Coefficient of Variation	0.455	Skewness	3.111

Normal GOF Test

Shapiro Wilk Test Statistic	0.599	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.346	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.155	95% Adjusted-CLT UCL (Chen-1995)	0.167
		95% Modified-t UCL (Johnson-1978)	0.158

Gamma GOF Test

A-D Test Statistic	1.356	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.736	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.293	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.229	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	8.31	k star (bias corrected MLE)	6.577
Theta hat (MLE)	0.0154	Theta star (bias corrected MLE)	0.0195

nu hat (MLE)	232.7	nu star (bias corrected)	184.2
MLE Mean (bias corrected)	0.128	MLE Sd (bias corrected)	0.0499
		Approximate Chi Square Value (0.05)	153.8
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	150.1

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.153	95% Adjusted Gamma UCL	0.157

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.794	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.264	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.577	Mean of logged Data	-2.118
Maximum of Logged Data	-1.139	SD of logged Data	0.329

Assuming Lognormal Distribution

95% H-UCL	0.151	90% Chebyshev (MVUE) UCL	0.16
95% Chebyshev (MVUE) UCL	0.176	97.5% Chebyshev (MVUE) UCL	0.197
99% Chebyshev (MVUE) UCL	0.239		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.153	95% BCA Bootstrap UCL	0.168
95% Standard Bootstrap UCL	0.153	95% Bootstrap-t UCL	0.192
95% Hall's Bootstrap UCL	0.264	95% Percentile Bootstrap UCL	0.157
90% Chebyshev(Mean, Sd) UCL	0.175	95% Chebyshev(Mean, Sd) UCL	0.196
97.5% Chebyshev(Mean, Sd) UCL	0.225	99% Chebyshev(Mean, Sd) UCL	0.283

Suggested UCL to Use

95% Student's-t UCL	0.155

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Tetrachloroethene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	4
Number of Detects	1	Number of Non-Detects	13
Number of Distinct Detects	1	Number of Distinct Non-Detects	3

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Tetrachloroethene was not processed!

Toluene

General Statistics

Total Number of Observations	13	Number of Distinct Observations	7
		Number of Missing Observations	0
Minimum	1.2	Mean	1.523
Maximum	2	Median	1.5
SD	0.228	Std. Error of Mean	0.0632
Coefficient of Variation	0.15	Skewness	0.863

Normal GOF Test

Shapiro Wilk Test Statistic	0.919	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.214	Lilliefors GOF Test
1% Lilliefors Critical Value	0.271	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.636	95% Adjusted-CLT UCL (Chen-1995)	1.643
		95% Modified-t UCL (Johnson-1978)	1.638

Gamma GOF Test

A-D Test Statistic	0.397	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.19	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.236	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	50.9	k star (bias corrected MLE)	39.2
Theta hat (MLE)	0.0299	Theta star (bias corrected MLE)	0.0388
nu hat (MLE)	1323	nu star (bias corrected)	1019
MLE Mean (bias corrected)	1.523	MLE Sd (bias corrected)	0.243
		Approximate Chi Square Value (0.05)	946.2
Adjusted Level of Significance	0.0301	Adjusted Chi Square Value	936.2

Assuming Gamma Distribution

95% Approximate Gamma UCL	1.641	95% Adjusted Gamma UCL	1.658

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Lognormal GOF Test
10% Shapiro Wilk Critical Value	0.889	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.187	Lilliefors Lognormal GOF Test
10% Lilliefors Critical Value	0.215	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.182	Mean of logged Data	0.411
Maximum of Logged Data	0.693	SD of logged Data	0.145

Assuming Lognormal Distribution

95% H-UCL	1.642	90% Chebyshev (MVUE) UCL	1.706

95% Chebyshev (MVUE) UCL	1.79	97.5% Chebyshev (MVUE) UCL	1.905
99% Chebyshev (MVUE) UCL	2.132		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	1.627	95% BCA Bootstrap UCL	1.631
95% Standard Bootstrap UCL	1.625	95% Bootstrap-t UCL	1.669
95% Hall's Bootstrap UCL	1.723	95% Percentile Bootstrap UCL	1.631
90% Chebyshev(Mean, Sd) UCL	1.713	95% Chebyshev(Mean, Sd) UCL	1.799
97.5% Chebyshev(Mean, Sd) UCL	1.918	99% Chebyshev(Mean, Sd) UCL	2.152

Suggested UCL to Use

95% Student's-t UCL	1.636

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Trichlorofluoromethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	1	Mean	1.093
Maximum	1.1	Median	1.1
SD	0.0267	Std. Error of Mean	0.00714
Coefficient of Variation	0.0245	Skewness	-3.742

Normal GOF Test

Shapiro Wilk Test Statistic	0.297	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.534	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.106	95% Adjusted-CLT UCL (Chen-1995)	1.097
		95% Modified-t UCL (Johnson-1978)	1.104

Gamma GOF Test

A-D Test Statistic	4.872	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.538	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	1706	k star (bias corrected MLE)	1340
Theta hat (MLE)	6.41E-04	Theta star (bias corrected MLE)	8.15E-04
nu hat (MLE)	47755	nu star (bias corrected)	37523
MLE Mean (bias corrected)	1.093	MLE Sd (bias corrected)	0.0299
		Approximate Chi Square Value (0.05)	37074
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	37015

Assuming Gamma Distribution

95% Approximate Gamma UCL	1.106	95% Adjusted Gamma UCL	1.108

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.297	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.534	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			

Lognormal Statistics

Minimum of Logged Data	0	Mean of logged Data	0.0885
Maximum of Logged Data	0.0953	SD of logged Data	0.0255

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	1.115
95% Chebyshev (MVUE) UCL	1.125	97.5% Chebyshev (MVUE) UCL	1.139
99% Chebyshev (MVUE) UCL	1.167		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	1.105	95% BCA Bootstrap UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
90% Chebyshev(Mean, Sd) UCL	1.114	95% Chebyshev(Mean, Sd) UCL	1.124
97.5% Chebyshev(Mean, Sd) UCL	1.137	99% Chebyshev(Mean, Sd) UCL	1.164

Suggested UCL to Use
95% Student's-t UCL 1.106
Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Appendix E

Laboratory Analytical Reports – 14-day Samples

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

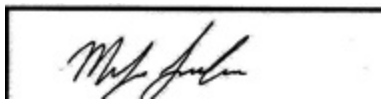
Lab Job Number : 518235
Report Level : II
Report Date : 10/22/2024

Analytical Report *prepared for:*

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Location: Walnut Bluff Workplan

Authorized for release by:



Miguel Gamboa, Project Manager
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

Sample ID	Lab ID	Collected	Matrix
WB01-14D	518235-001	10/15/24 11:37	Air
WB02-14D	518235-002	10/15/24 11:34	Air
WB03-14D	518235-003	10/15/24 11:46	Air
WB04-14D	518235-004	10/15/24 11:50	Air
WB05-14D	518235-005	10/15/24 12:01	Air
WB06-14D	518235-006	10/15/24 11:56	Air
WB07-14D	518235-007	10/15/24 12:06	Air
WB08-14D	518235-008	10/15/24 12:11	Air
WB09-14D	518235-009	10/15/24 11:05	Air
WB10-14D	518235-010	10/15/24 11:12	Air
WB11-14D	518235-011	10/15/24 11:16	Air
WB12-14D	518235-012	10/15/24 11:20	Air
WB13-14D	518235-013	10/15/24 11:24	Air
WB14-14D	518235-014	10/15/24 11:28	Air
WB17-14D	518235-015	10/15/24 09:40	Air
WB18-14D	518235-016	10/15/24 10:28	Air
WB19-14D	518235-017	10/15/24 14:44	Air

Case Narrative

Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403
Yola Bayram

Lab Job Number: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

This data package contains sample and QC results for seventeen air samples, requested for the above referenced project on 10/15/24. The samples were received intact.

Volatile Organics in Air by MS (EPA TO-15 SIM):
No analytical problems were encountered.

ENTHALPY ANALYTICAL

Detection Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

Sample ID: WB01-14D **Lab ID: 518235-001** **Collected: 10/15/24 11:37**
Matrix: Air

518235-001 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**480**		pptv	110
Chloromethane	**0.99**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.080**		ug/m3	0.043
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**160**		pptv	22
Methylene Chloride	**0.55**		ug/m3	0.076
Freon 113	**60**		pptv	11
Freon 113	**0.46**		ug/m3	0.084
Chloroform	**28**		pptv	11
Chloroform	**0.14**		ug/m3	0.054
1,2-Dichloroethane	**16**		pptv	11
1,2-Dichloroethane	**0.063**		ug/m3	0.045
Benzene	**250**		pptv	11
Benzene	**0.80**		ug/m3	0.035
Carbon Tetrachloride	**73**		pptv	11
Carbon Tetrachloride	**0.46**		ug/m3	0.069
Toluene	**360**		pptv	11
Toluene	**1.4**		ug/m3	0.041
Ethylbenzene	**63**		pptv	11
Ethylbenzene	**0.27**		ug/m3	0.048
m,p-Xylenes	**180**		pptv	11
m,p-Xylenes	**0.79**		ug/m3	0.048
Styrene	**24**		pptv	11
Styrene	**0.10**		ug/m3	0.047
o-Xylene	**73**		pptv	11
o-Xylene	**0.32**		ug/m3	0.048
1,3,5-Trimethylbenzene	**15**		pptv	11
1,3,5-Trimethylbenzene	**0.074**		ug/m3	0.054
1,2,4-Trimethylbenzene	**61**		pptv	11
1,2,4-Trimethylbenzene	**0.30**		ug/m3	0.054
Naphthalene	**11**		pptv	11
Naphthalene	**0.059**		ug/m3	0.058
Xylene (total)	**250**		pptv	11
Xylene (total)	**1.1**		ug/m3	0.048

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ENTHALPY ANALYTICAL

Detection Summary

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB02-14D	Lab ID: 518235-002	Collected: 10/15/24 11:34
	Matrix: Air	

518235-002 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**0.99**		ug/m3	0.21
Freon 114	**16**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**22**		pptv	10
Bromomethane	**0.084**		ug/m3	0.039
Chloroethane	**19**		pptv	10
Chloroethane	**0.049**		ug/m3	0.026
Trichlorofluoromethane	**180**		pptv	10
Trichlorofluoromethane	**1.0**		ug/m3	0.056
Methylene Chloride	**170**		pptv	20
Methylene Chloride	**0.60**		ug/m3	0.069
Freon 113	**58**		pptv	10
Freon 113	**0.44**		ug/m3	0.077
Chloroform	**32**		pptv	10
Chloroform	**0.16**		ug/m3	0.049
1,2-Dichloroethane	**16**		pptv	10
1,2-Dichloroethane	**0.066**		ug/m3	0.040
Benzene	**260**		pptv	10
Benzene	**0.83**		ug/m3	0.032
Carbon Tetrachloride	**71**		pptv	10
Carbon Tetrachloride	**0.45**		ug/m3	0.063
Toluene	**410**		pptv	10
Toluene	**1.5**		ug/m3	0.038
Ethylbenzene	**75**		pptv	10
Ethylbenzene	**0.33**		ug/m3	0.043
m,p-Xylenes	**210**		pptv	10
m,p-Xylenes	**0.90**		ug/m3	0.043
Styrene	**28**		pptv	10
Styrene	**0.12**		ug/m3	0.043
o-Xylene	**82**		pptv	10
o-Xylene	**0.35**		ug/m3	0.043
1,3,5-Trimethylbenzene	**20**		pptv	10
1,3,5-Trimethylbenzene	**0.10**		ug/m3	0.049
1,2,4-Trimethylbenzene	**74**		pptv	10
1,2,4-Trimethylbenzene	**0.37**		ug/m3	0.049
Naphthalene	**15**		pptv	10
Naphthalene	**0.077**		ug/m3	0.052
Xylene (total)	**290**		pptv	10
Xylene (total)	**1.3**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB03-14D	Lab ID: 518235-003	Collected: 10/15/24 11:46
	Matrix: Air	

518235-003 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.082**		ug/m3	0.039
Trichlorofluoromethane	**200**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**170**		pptv	20
Methylene Chloride	**0.59**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**34**		pptv	10
Chloroform	**0.17**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**230**		pptv	10
Benzene	**0.72**		ug/m3	0.032
Carbon Tetrachloride	**75**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**330**		pptv	10
Toluene	**1.2**		ug/m3	0.038
Ethylbenzene	**57**		pptv	10
Ethylbenzene	**0.25**		ug/m3	0.043
m,p-Xylenes	**160**		pptv	10
m,p-Xylenes	**0.71**		ug/m3	0.043
Styrene	**18**		pptv	10
Styrene	**0.076**		ug/m3	0.043
o-Xylene	**65**		pptv	10
o-Xylene	**0.28**		ug/m3	0.043
1,3,5-Trimethylbenzene	**11**		pptv	10
1,3,5-Trimethylbenzene	**0.055**		ug/m3	0.049
1,2,4-Trimethylbenzene	**48**		pptv	10
1,2,4-Trimethylbenzene	**0.24**		ug/m3	0.049
Xylene (total)	**230**		pptv	10
Xylene (total)	**0.99**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB04-14D	Lab ID: 518235-004	Collected: 10/15/24 11:50
	Matrix: Air	

518235-004 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**16**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**19**		pptv	10
Bromomethane	**0.075**		ug/m3	0.039
Trichlorofluoromethane	**200**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**340**		pptv	20
Methylene Chloride	**1.2**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**33**		pptv	10
Chloroform	**0.16**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**230**		pptv	10
Benzene	**0.74**		ug/m3	0.032
Carbon Tetrachloride	**75**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**380**		pptv	10
Toluene	**1.4**		ug/m3	0.038
Ethylbenzene	**60**		pptv	10
Ethylbenzene	**0.26**		ug/m3	0.043
m,p-Xylenes	**180**		pptv	10
m,p-Xylenes	**0.76**		ug/m3	0.043
Styrene	**25**		pptv	10
Styrene	**0.11**		ug/m3	0.043
o-Xylene	**69**		pptv	10
o-Xylene	**0.30**		ug/m3	0.043
1,3,5-Trimethylbenzene	**13**		pptv	10
1,3,5-Trimethylbenzene	**0.065**		ug/m3	0.049
1,2,4-Trimethylbenzene	**59**		pptv	10
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.049
Xylene (total)	**240**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB05-14D	Lab ID: 518235-005	Collected: 10/15/24 12:01
	Matrix: Air	

518235-005 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	12
Freon 12	**2.3**		ug/m3	0.059
Chloromethane	**480**		pptv	120
Chloromethane	**1.0**		ug/m3	0.25
Freon 114	**16**		pptv	12
Freon 114	**0.11**		ug/m3	0.084
Bromomethane	**22**		pptv	12
Bromomethane	**0.084**		ug/m3	0.047
Trichlorofluoromethane	**190**		pptv	12
Trichlorofluoromethane	**1.1**		ug/m3	0.067
Methylene Chloride	**220**		pptv	24
Methylene Chloride	**0.76**		ug/m3	0.083
Freon 113	**61**		pptv	12
Freon 113	**0.46**		ug/m3	0.092
Chloroform	**32**		pptv	12
Chloroform	**0.16**		ug/m3	0.059
1,2-Dichloroethane	**15**		pptv	12
1,2-Dichloroethane	**0.061**		ug/m3	0.049
Benzene	**1,000**		pptv	12
Benzene	**3.2**		ug/m3	0.038
Carbon Tetrachloride	**73**		pptv	12
Carbon Tetrachloride	**0.46**		ug/m3	0.075
Toluene	**1,500**		pptv	12
Toluene	**5.8**		ug/m3	0.045
Ethylbenzene	**59**		pptv	12
Ethylbenzene	**0.26**		ug/m3	0.052
m,p-Xylenes	**170**		pptv	12
m,p-Xylenes	**0.73**		ug/m3	0.052
Styrene	**30**		pptv	12
Styrene	**0.13**		ug/m3	0.051
o-Xylene	**66**		pptv	12
o-Xylene	**0.29**		ug/m3	0.052
1,3,5-Trimethylbenzene	**15**		pptv	12
1,3,5-Trimethylbenzene	**0.074**		ug/m3	0.059
1,2,4-Trimethylbenzene	**59**		pptv	12
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.059
Naphthalene	**14**		pptv	12
Naphthalene	**0.074**		ug/m3	0.063
Xylene (total)	**230**		pptv	12
Xylene (total)	**1.0**		ug/m3	0.052

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB06-14D	Lab ID: 518235-006	Collected: 10/15/24 11:56
	Matrix: Air	

518235-006 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.081**		ug/m3	0.039
Chloroethane	**17**		pptv	10
Chloroethane	**0.045**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**180**		pptv	20
Methylene Chloride	**0.62**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**31**		pptv	10
Chloroform	**0.15**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**230**		pptv	10
Benzene	**0.74**		ug/m3	0.032
Carbon Tetrachloride	**74**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**420**		pptv	10
Toluene	**1.6**		ug/m3	0.038
Ethylbenzene	**64**		pptv	10
Ethylbenzene	**0.28**		ug/m3	0.043
m,p-Xylenes	**170**		pptv	10
m,p-Xylenes	**0.74**		ug/m3	0.043
Styrene	**26**		pptv	10
Styrene	**0.11**		ug/m3	0.043
o-Xylene	**66**		pptv	10
o-Xylene	**0.29**		ug/m3	0.043
1,3,5-Trimethylbenzene	**13**		pptv	10
1,3,5-Trimethylbenzene	**0.065**		ug/m3	0.049
1,2,4-Trimethylbenzene	**54**		pptv	10
1,2,4-Trimethylbenzene	**0.26**		ug/m3	0.049
Xylene (total)	**240**		pptv	10
Xylene (total)	**1.0**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB07-14D	Lab ID: 518235-007	Collected: 10/15/24 12:06
	Matrix: Air	

518235-007 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**0.99**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**22**		pptv	10
Bromomethane	**0.085**		ug/m3	0.039
Chloroethane	**33**		pptv	10
Chloroethane	**0.088**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**190**		pptv	20
Methylene Chloride	**0.67**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**29**		pptv	10
Chloroform	**0.14**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.061**		ug/m3	0.040
Benzene	**220**		pptv	10
Benzene	**0.72**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**390**		pptv	10
Toluene	**1.5**		ug/m3	0.038
Ethylbenzene	**60**		pptv	10
Ethylbenzene	**0.26**		ug/m3	0.043
m,p-Xylenes	**160**		pptv	10
m,p-Xylenes	**0.71**		ug/m3	0.043
Styrene	**29**		pptv	10
Styrene	**0.12**		ug/m3	0.043
o-Xylene	**65**		pptv	10
o-Xylene	**0.28**		ug/m3	0.043
1,3,5-Trimethylbenzene	**13**		pptv	10
1,3,5-Trimethylbenzene	**0.065**		ug/m3	0.049
1,2,4-Trimethylbenzene	**58**		pptv	10
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.059**		ug/m3	0.052
Xylene (total)	**230**		pptv	10
Xylene (total)	**0.99**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB08-14D	Lab ID: 518235-008	Collected: 10/15/24 12:11
	Matrix: Air	

518235-008 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**490**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**17**		pptv	11
Freon 114	**0.12**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.080**		ug/m3	0.043
Chloroethane	**22**		pptv	11
Chloroethane	**0.058**		ug/m3	0.029
Trichlorofluoromethane	**200**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**210**		pptv	22
Methylene Chloride	**0.74**		ug/m3	0.076
Freon 113	**61**		pptv	11
Freon 113	**0.47**		ug/m3	0.084
Chloroform	**28**		pptv	11
Chloroform	**0.14**		ug/m3	0.054
1,2-Dichloroethane	**15**		pptv	11
1,2-Dichloroethane	**0.062**		ug/m3	0.045
Benzene	**230**		pptv	11
Benzene	**0.74**		ug/m3	0.035
Carbon Tetrachloride	**74**		pptv	11
Carbon Tetrachloride	**0.47**		ug/m3	0.069
Toluene	**400**		pptv	11
Toluene	**1.5**		ug/m3	0.041
Ethylbenzene	**59**		pptv	11
Ethylbenzene	**0.26**		ug/m3	0.048
m,p-Xylenes	**160**		pptv	11
m,p-Xylenes	**0.70**		ug/m3	0.048
Styrene	**23**		pptv	11
Styrene	**0.099**		ug/m3	0.047
o-Xylene	**65**		pptv	11
o-Xylene	**0.28**		ug/m3	0.048
1,3,5-Trimethylbenzene	**12**		pptv	11
1,3,5-Trimethylbenzene	**0.061**		ug/m3	0.054
1,2,4-Trimethylbenzene	**54**		pptv	11
1,2,4-Trimethylbenzene	**0.27**		ug/m3	0.054
Xylene (total)	**230**		pptv	11
Xylene (total)	**0.98**		ug/m3	0.048

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB09-14D	Lab ID: 518235-009	Collected: 10/15/24 11:05
	Matrix: Air	

518235-009 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**24**		pptv	10
Bromomethane	**0.092**		ug/m3	0.039
Chloroethane	**16**		pptv	10
Chloroethane	**0.042**		ug/m3	0.026
Trichlorofluoromethane	**200**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**820**		pptv	20
Methylene Chloride	**2.8**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**37**		pptv	10
Chloroform	**0.18**		ug/m3	0.049
1,2-Dichloroethane	**16**		pptv	10
1,2-Dichloroethane	**0.063**		ug/m3	0.040
Benzene	**250**		pptv	10
Benzene	**0.81**		ug/m3	0.032
Carbon Tetrachloride	**74**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**420**		pptv	10
Toluene	**1.6**		ug/m3	0.038
Ethylbenzene	**62**		pptv	10
Ethylbenzene	**0.27**		ug/m3	0.043
m,p-Xylenes	**180**		pptv	10
m,p-Xylenes	**0.79**		ug/m3	0.043
Styrene	**29**		pptv	10
Styrene	**0.12**		ug/m3	0.043
o-Xylene	**72**		pptv	10
o-Xylene	**0.31**		ug/m3	0.043
1,3,5-Trimethylbenzene	**14**		pptv	10
1,3,5-Trimethylbenzene	**0.068**		ug/m3	0.049
1,2,4-Trimethylbenzene	**59**		pptv	10
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.049
Naphthalene	**15**		pptv	10
Naphthalene	**0.078**		ug/m3	0.052
Xylene (total)	**250**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB10-14D	Lab ID: 518235-010	Collected: 10/15/24 11:12
	Matrix: Air	

518235-010 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**0.98**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.083**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**250**		pptv	20
Methylene Chloride	**0.85**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**31**		pptv	10
Chloroform	**0.15**		ug/m3	0.049
1,2-Dichloroethane	**18**		pptv	10
1,2-Dichloroethane	**0.072**		ug/m3	0.040
Benzene	**310**		pptv	10
Benzene	**0.99**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**350**		pptv	10
Toluene	**1.3**		ug/m3	0.038
Ethylbenzene	**100**		pptv	10
Ethylbenzene	**0.45**		ug/m3	0.043
m,p-Xylenes	**270**		pptv	10
m,p-Xylenes	**1.2**		ug/m3	0.043
Styrene	**32**		pptv	10
Styrene	**0.13**		ug/m3	0.043
o-Xylene	**84**		pptv	10
o-Xylene	**0.37**		ug/m3	0.043
1,3,5-Trimethylbenzene	**28**		pptv	10
1,3,5-Trimethylbenzene	**0.14**		ug/m3	0.049
1,2,4-Trimethylbenzene	**100**		pptv	10
1,2,4-Trimethylbenzene	**0.50**		ug/m3	0.049
Naphthalene	**26**		pptv	10
Naphthalene	**0.14**		ug/m3	0.052
Xylene (total)	**350**		pptv	10
Xylene (total)	**1.5**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB11-14D	Lab ID: 518235-011	Collected: 10/15/24 11:16
	Matrix: Air	

518235-011 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**23**		pptv	10
Bromomethane	**0.089**		ug/m3	0.039
Chloroethane	**34**		pptv	10
Chloroethane	**0.089**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**160**		pptv	20
Methylene Chloride	**0.57**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**29**		pptv	10
Chloroform	**0.14**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.061**		ug/m3	0.040
Benzene	**240**		pptv	10
Benzene	**0.78**		ug/m3	0.032
Carbon Tetrachloride	**74**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**440**		pptv	10
Toluene	**1.6**		ug/m3	0.038
Ethylbenzene	**61**		pptv	10
Ethylbenzene	**0.27**		ug/m3	0.043
m,p-Xylenes	**180**		pptv	10
m,p-Xylenes	**0.78**		ug/m3	0.043
Styrene	**31**		pptv	10
Styrene	**0.13**		ug/m3	0.043
o-Xylene	**70**		pptv	10
o-Xylene	**0.31**		ug/m3	0.043
1,3,5-Trimethylbenzene	**15**		pptv	10
1,3,5-Trimethylbenzene	**0.073**		ug/m3	0.049
1,2,4-Trimethylbenzene	**60**		pptv	10
1,2,4-Trimethylbenzene	**0.30**		ug/m3	0.049
Naphthalene	**16**		pptv	10
Naphthalene	**0.086**		ug/m3	0.052
Xylene (total)	**250**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB12-14D	Lab ID: 518235-012	Collected: 10/15/24 11:20
	Matrix: Air	

518235-012 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.081**		ug/m3	0.039
Chloroethane	**39**		pptv	10
Chloroethane	**0.10**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**160**		pptv	20
Methylene Chloride	**0.57**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**29**		pptv	10
Chloroform	**0.14**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**270**		pptv	10
Benzene	**0.85**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**490**		pptv	10
Toluene	**1.9**		ug/m3	0.038
Ethylbenzene	**68**		pptv	10
Ethylbenzene	**0.29**		ug/m3	0.043
m,p-Xylenes	**190**		pptv	10
m,p-Xylenes	**0.83**		ug/m3	0.043
Styrene	**32**		pptv	10
Styrene	**0.14**		ug/m3	0.043
o-Xylene	**75**		pptv	10
o-Xylene	**0.33**		ug/m3	0.043
1,3,5-Trimethylbenzene	**15**		pptv	10
1,3,5-Trimethylbenzene	**0.074**		ug/m3	0.049
1,2,4-Trimethylbenzene	**64**		pptv	10
1,2,4-Trimethylbenzene	**0.32**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.059**		ug/m3	0.052
Xylene (total)	**270**		pptv	10
Xylene (total)	**1.2**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB13-14D	Lab ID: 518235-013	Collected: 10/15/24 11:24
	Matrix: Air	

518235-013 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**490**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.083**		ug/m3	0.043
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**170**		pptv	22
Methylene Chloride	**0.60**		ug/m3	0.076
Freon 113	**59**		pptv	11
Freon 113	**0.46**		ug/m3	0.084
Chloroform	**35**		pptv	11
Chloroform	**0.17**		ug/m3	0.054
1,2-Dichloroethane	**16**		pptv	11
1,2-Dichloroethane	**0.065**		ug/m3	0.045
Benzene	**280**		pptv	11
Benzene	**0.89**		ug/m3	0.035
Carbon Tetrachloride	**72**		pptv	11
Carbon Tetrachloride	**0.46**		ug/m3	0.069
Toluene	**530**		pptv	11
Toluene	**2.0**		ug/m3	0.041
Tetrachloroethene	**12**		pptv	11
Tetrachloroethene	**0.080**		ug/m3	0.075
Ethylbenzene	**72**		pptv	11
Ethylbenzene	**0.31**		ug/m3	0.048
m,p-Xylenes	**220**		pptv	11
m,p-Xylenes	**0.94**		ug/m3	0.048
Styrene	**76**		pptv	11
Styrene	**0.32**		ug/m3	0.047
o-Xylene	**86**		pptv	11
o-Xylene	**0.37**		ug/m3	0.048
1,3,5-Trimethylbenzene	**17**		pptv	11
1,3,5-Trimethylbenzene	**0.085**		ug/m3	0.054
1,2,4-Trimethylbenzene	**72**		pptv	11
1,2,4-Trimethylbenzene	**0.35**		ug/m3	0.054
Naphthalene	**23**		pptv	11
Naphthalene	**0.12**		ug/m3	0.058
Xylene (total)	**300**		pptv	11
Xylene (total)	**1.3**		ug/m3	0.048

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB14-14D	Lab ID: 518235-014	Collected: 10/15/24 11:28
	Matrix: Air	

518235-014 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**16**		pptv	10
Freon 114	**0.11**		ug/m3	0.070
Bromomethane	**22**		pptv	10
Bromomethane	**0.085**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**170**		pptv	20
Methylene Chloride	**0.59**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**27**		pptv	10
Chloroform	**0.13**		ug/m3	0.049
1,2-Dichloroethane	**16**		pptv	10
1,2-Dichloroethane	**0.063**		ug/m3	0.040
Benzene	**240**		pptv	10
Benzene	**0.78**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**350**		pptv	10
Toluene	**1.3**		ug/m3	0.038
Ethylbenzene	**60**		pptv	10
Ethylbenzene	**0.26**		ug/m3	0.043
m,p-Xylenes	**170**		pptv	10
m,p-Xylenes	**0.75**		ug/m3	0.043
Styrene	**20**		pptv	10
Styrene	**0.086**		ug/m3	0.043
o-Xylene	**68**		pptv	10
o-Xylene	**0.30**		ug/m3	0.043
1,3,5-Trimethylbenzene	**14**		pptv	10
1,3,5-Trimethylbenzene	**0.067**		ug/m3	0.049
1,2,4-Trimethylbenzene	**55**		pptv	10
1,2,4-Trimethylbenzene	**0.27**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.057**		ug/m3	0.052
Xylene (total)	**240**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB17-14D	Lab ID: 518235-015	Collected: 10/15/24 09:40
	Matrix: Air	

518235-015 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**480**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**22**		pptv	11
Bromomethane	**0.084**		ug/m3	0.043
Chloroethane	**12**		pptv	11
Chloroethane	**0.032**		ug/m3	0.029
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**150**		pptv	22
Methylene Chloride	**0.53**		ug/m3	0.076
Freon 113	**60**		pptv	11
Freon 113	**0.46**		ug/m3	0.084
Chloroform	**29**		pptv	11
Chloroform	**0.14**		ug/m3	0.054
1,2-Dichloroethane	**15**		pptv	11
1,2-Dichloroethane	**0.062**		ug/m3	0.045
Benzene	**260**		pptv	11
Benzene	**0.82**		ug/m3	0.035
Carbon Tetrachloride	**72**		pptv	11
Carbon Tetrachloride	**0.46**		ug/m3	0.069
Toluene	**450**		pptv	11
Toluene	**1.7**		ug/m3	0.041
Ethylbenzene	**69**		pptv	11
Ethylbenzene	**0.30**		ug/m3	0.048
m,p-Xylenes	**200**		pptv	11
m,p-Xylenes	**0.89**		ug/m3	0.048
Styrene	**30**		pptv	11
Styrene	**0.13**		ug/m3	0.047
o-Xylene	**81**		pptv	11
o-Xylene	**0.35**		ug/m3	0.048
1,3,5-Trimethylbenzene	**17**		pptv	11
1,3,5-Trimethylbenzene	**0.085**		ug/m3	0.054
1,2,4-Trimethylbenzene	**67**		pptv	11
1,2,4-Trimethylbenzene	**0.33**		ug/m3	0.054
Naphthalene	**14**		pptv	11
Naphthalene	**0.072**		ug/m3	0.058
Xylene (total)	**290**		pptv	11
Xylene (total)	**1.2**		ug/m3	0.048

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB18-14D	Lab ID: 518235-016	Collected: 10/15/24 10:28
	Matrix: Air	

518235-016 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**480**		pptv	12
Freon 12	**2.4**		ug/m3	0.059
Chloromethane	**510**		pptv	120
Chloromethane	**1.1**		ug/m3	0.25
Freon 114	**17**		pptv	12
Freon 114	**0.12**		ug/m3	0.084
Bromomethane	**28**		pptv	12
Bromomethane	**0.11**		ug/m3	0.047
Chloroethane	**13**		pptv	12
Chloroethane	**0.035**		ug/m3	0.032
Trichlorofluoromethane	**200**		pptv	12
Trichlorofluoromethane	**1.1**		ug/m3	0.067
Methylene Chloride	**160**		pptv	24
Methylene Chloride	**0.56**		ug/m3	0.083
Freon 113	**62**		pptv	12
Freon 113	**0.47**		ug/m3	0.092
Chloroform	**29**		pptv	12
Chloroform	**0.14**		ug/m3	0.059
1,2-Dichloroethane	**15**		pptv	12
1,2-Dichloroethane	**0.062**		ug/m3	0.049
Benzene	**250**		pptv	12
Benzene	**0.79**		ug/m3	0.038
Carbon Tetrachloride	**75**		pptv	12
Carbon Tetrachloride	**0.47**		ug/m3	0.075
Toluene	**440**		pptv	12
Toluene	**1.7**		ug/m3	0.045
Ethylbenzene	**68**		pptv	12
Ethylbenzene	**0.30**		ug/m3	0.052
m,p-Xylenes	**200**		pptv	12
m,p-Xylenes	**0.88**		ug/m3	0.052
Styrene	**31**		pptv	12
Styrene	**0.13**		ug/m3	0.051
o-Xylene	**81**		pptv	12
o-Xylene	**0.35**		ug/m3	0.052
1,3,5-Trimethylbenzene	**22**		pptv	12
1,3,5-Trimethylbenzene	**0.11**		ug/m3	0.059
1,2,4-Trimethylbenzene	**89**		pptv	12
1,2,4-Trimethylbenzene	**0.44**		ug/m3	0.059
Naphthalene	**14**		pptv	12
Naphthalene	**0.073**		ug/m3	0.063
Xylene (total)	**280**		pptv	12
Xylene (total)	**1.2**		ug/m3	0.052

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB19-14D	Lab ID: 518235-017	Collected: 10/15/24 14:44
	Matrix: Air	

518235-017 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**500**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.080**		ug/m3	0.043
Chloroethane	**26**		pptv	11
Chloroethane	**0.069**		ug/m3	0.029
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**140**		pptv	22
Methylene Chloride	**0.50**		ug/m3	0.076
Freon 113	**59**		pptv	11
Freon 113	**0.45**		ug/m3	0.084
Chloroform	**27**		pptv	11
Chloroform	**0.13**		ug/m3	0.054
1,2-Dichloroethane	**17**		pptv	11
1,2-Dichloroethane	**0.067**		ug/m3	0.045
Benzene	**320**		pptv	11
Benzene	**1.0**		ug/m3	0.035
Carbon Tetrachloride	**71**		pptv	11
Carbon Tetrachloride	**0.45**		ug/m3	0.069
Toluene	**480**		pptv	11
Toluene	**1.8**		ug/m3	0.041
Ethylbenzene	**72**		pptv	11
Ethylbenzene	**0.31**		ug/m3	0.048
m,p-Xylenes	**220**		pptv	11
m,p-Xylenes	**0.95**		ug/m3	0.048
Styrene	**42**		pptv	11
Styrene	**0.18**		ug/m3	0.047
o-Xylene	**86**		pptv	11
o-Xylene	**0.37**		ug/m3	0.048
1,3,5-Trimethylbenzene	**17**		pptv	11
1,3,5-Trimethylbenzene	**0.081**		ug/m3	0.054
1,2,4-Trimethylbenzene	**62**		pptv	11
1,2,4-Trimethylbenzene	**0.30**		ug/m3	0.054
Xylene (total)	**300**		pptv	11
Xylene (total)	**1.3**		ug/m3	0.048

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

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Phone: (714) 771-6900 Fax: (714) 538-1209

ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. 518235

Page 1 of 2

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Catalyst Environmental Solutions	Name:	Walnut Bluff Work plan	
Report To:	Vola Bayram	Number:		Lab Quote Number:
Email:	ybayram@ce.solutions	Address:		
Address:	315 Montana Ave, Suite 311			
	Santa Monica, CA, 90403	Global ID:		
Phone:	(313) 204-8477 Fax:	Sampled By:	Elizabeth Hwang	

Special Instructions:

Analysis Request: TO-15 sim

Required Turnaround Time: Standard ☒ (~~X~~), 5 Day ☐, 3 Day ☐, 2 Day ☐, 1 Day ☐, Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	TO-15 sim	Comments
1	WB01-14D	A	C70196	6	A70124	10/1/24	1126	30	10/15/24	1137	8	x	
2	WB02-14D	A	C70903	6	A70413	10/1/24	1120	31	10/15/24	1134	6	x	
3	WB03-14D	A	C70059	6	A70027	10/1/24	1133	31	10/15/24	1146	7	x	
4	WB04-14D	A	C70932	6	A70110	10/1/24	1147	28	10/15/24	1150	7	x	
5	WB05-14D	A	C70800	6	A70163	10/1/24	1143	31	10/15/24	1201	10	x	
6	WB06-14D	A	C70916	6	A70403	10/1/24	1152	30	10/15/24	1156	3	x	
7	WB07-14D	A	C70901	6	A70248	10/1/24	1157	31	10/15/24	1206	7	x	
8	WB08-14D	A	C70914	6	A70079	10/1/24	1201	30	10/15/24	1211	8	x	
9	WB09-14D	A	C70012	6	A70102	10/1/24	1044	29	10/15/24	1105	6	x	
10	WB10-14D	A	C70331	6	A70238	10/1/24	1049	31	10/15/24	1112	6	x	

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:		Elizabeth Hwang	CES - Env Sci	10/15/24 17:18
RECEIVED BY:		Tris Kelly	Enthalpy	10/15/24 17:18
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				

931 W. Barkley Ave., Orange, CA 92868
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ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. 518235

Page 2 of 2

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Catalyst Environmental Solutions	Name:	Walnut Bluff Work Plan	
Report To:	Yola Bayram	Number:		Lab Quote Number:
Email:	ybayram@ce.solutions	Address:		
Address:	315 Montana Ave, Suite 311 Santa Monica, CA, 90403			
Phone:	(313) 204-8477 Fax:	Global ID:		
		Sampled By:	Elizabeth Hwang	

Special Instructions:

Analysis Request: TO-15sim

Required Turnaround Time: Standard [X] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	Comments
1	WB11-14D	A	C70352	6	A70404	10/1/24	1055	30	10/15/24	11:16	5	
2	WB12-14D	A	C70908	6	A70144	10/1/24	1103	31	10/15/24	11:20	8	
3	WB13-14D	A	C70249	6	A70531	10/1/24	1110	30	10/15/24	11:24	7	
4	WB14-14D	A	C70309	6	A70014	10/1/24	1116	30	10/15/24	11:28	5	
5	WB17-14D	A	C70938	6	A70230	10/1/24	0935	30	10/15/24	0940	8	
6	WB18-14D	A	C70812	6	A70252	10/1/24	1020	31	10/15/24	1028	10	
7	WB19-14D	A	C70081	6	A70118	10/1/24	1451	30	10/15	1444	9	
8												
9												
10												

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:		Elizabeth Hwang	CES- Env. Sci.	10/15/24 17:18
RECEIVED BY:		Tris Kelly	Enthalpy	10/15/24 17:18
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/15/24 WO# 518235 Client: Catalyst Environmental Solutions

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/15/24 By (initials) TLK Type of ice used : ☐ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

■ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: _____ CF: _____

Cooler Temp (°C) #1: ____/____ #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☐ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☑ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other _____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			x
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?		x	
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☑ **PM notified**

Sample 17 did not have a corresponding label on any container. Sample determined via canister ID

Date Logged 10/15/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

Date Labeled 10/15/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB01-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-001 **Sampled:** 10/15/24 11:37 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.100 **Analyzed:** 10/16/24 10:34

518235-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**480**	110	pptv	**0.99**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.080**	0.043	ug/m3
Chloroethane	ND	11	pptv	ND	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**160**	22	pptv	**0.55**	0.076	ug/m3
Freon 113	**60**	11	pptv	**0.46**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**28**	11	pptv	**0.14**	0.054	ug/m3
1,2-Dichloroethane	**16**	11	pptv	**0.063**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**250**	11	pptv	**0.80**	0.035	ug/m3
Carbon Tetrachloride	**73**	11	pptv	**0.46**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**360**	11	pptv	**1.4**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**63**	11	pptv	**0.27**	0.048	ug/m3
m,p-Xylenes	**180**	11	pptv	**0.79**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**24**	11	pptv	**0.10**	0.047	ug/m3
o-Xylene	**73**	11	pptv	**0.32**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**15**	11	pptv	**0.074**	0.054	ug/m3
1,2,4-Trimethylbenzene	**61**	11	pptv	**0.30**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**11**	11	pptv	**0.059**	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**250**	11	pptv	**1.1**	0.048	ug/m3

518235-001 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	94	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB02-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-002	**Sampled:**	10/15/24 11:34	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 11:41		

518235-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**0.99**	0.21	ug/m3
Freon 114	**16**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**22**	10	pptv	**0.084**	0.039	ug/m3
Chloroethane	**19**	10	pptv	**0.049**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**180**	10	pptv	**1.0**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**170**	20	pptv	**0.60**	0.069	ug/m3
Freon 113	**58**	10	pptv	**0.44**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**32**	10	pptv	**0.16**	0.049	ug/m3
1,2-Dichloroethane	**16**	10	pptv	**0.066**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**260**	10	pptv	**0.83**	0.032	ug/m3
Carbon Tetrachloride	**71**	10	pptv	**0.45**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**410**	10	pptv	**1.5**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**75**	10	pptv	**0.33**	0.043	ug/m3
m,p-Xylenes	**210**	10	pptv	**0.90**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**28**	10	pptv	**0.12**	0.043	ug/m3
o-Xylene	**82**	10	pptv	**0.35**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**20**	10	pptv	**0.10**	0.049	ug/m3
1,2,4-Trimethylbenzene	**74**	10	pptv	**0.37**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**15**	10	pptv	**0.077**	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**290**	10	pptv	**1.3**	0.043	ug/m3

518235-002 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB03-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-003	**Sampled:**	10/15/24 11:46	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 13:06		

518235-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.082**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**200**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**170**	20	pptv	**0.59**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**34**	10	pptv	**0.17**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**230**	10	pptv	**0.72**	0.032	ug/m3
Carbon Tetrachloride	**75**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**330**	10	pptv	**1.2**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**57**	10	pptv	**0.25**	0.043	ug/m3
m,p-Xylenes	**160**	10	pptv	**0.71**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**18**	10	pptv	**0.076**	0.043	ug/m3
o-Xylene	**65**	10	pptv	**0.28**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**11**	10	pptv	**0.055**	0.049	ug/m3
1,2,4-Trimethylbenzene	**48**	10	pptv	**0.24**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**230**	10	pptv	**0.99**	0.043	ug/m3

518235-003 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB04-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-004	**Sampled:**	10/15/24 11:50	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 13:55		

518235-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**16**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**19**	10	pptv	**0.075**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**200**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**340**	20	pptv	**1.2**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**33**	10	pptv	**0.16**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**230**	10	pptv	**0.74**	0.032	ug/m3
Carbon Tetrachloride	**75**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**380**	10	pptv	**1.4**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**60**	10	pptv	**0.26**	0.043	ug/m3
m,p-Xylenes	**180**	10	pptv	**0.76**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**25**	10	pptv	**0.11**	0.043	ug/m3
o-Xylene	**69**	10	pptv	**0.30**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**13**	10	pptv	**0.065**	0.049	ug/m3
1,2,4-Trimethylbenzene	**59**	10	pptv	**0.29**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**240**	10	pptv	**1.1**	0.043	ug/m3

518235-004 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	94	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB05-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-005	**Sampled:**	10/15/24 12:01	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.200	**Analyzed:**	10/16/24 14:44		

518235-005 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	12	pptv	**2.3**	0.059	ug/m3
Chloromethane	**480**	120	pptv	**1.0**	0.25	ug/m3
Freon 114	**16**	12	pptv	**0.11**	0.084	ug/m3
Vinyl Chloride	ND	12	pptv	ND	0.031	ug/m3
Bromomethane	**22**	12	pptv	**0.084**	0.047	ug/m3
Chloroethane	ND	12	pptv	ND	0.032	ug/m3
Vinyl bromide	ND	12	pptv	ND	0.052	ug/m3
Trichlorofluoromethane	**190**	12	pptv	**1.1**	0.067	ug/m3
1,1-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Methylene Chloride	**220**	24	pptv	**0.76**	0.083	ug/m3
Freon 113	**61**	12	pptv	**0.46**	0.092	ug/m3
trans-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
1,1-Dichloroethane	ND	12	pptv	ND	0.049	ug/m3
cis-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Chloroform	**32**	12	pptv	**0.16**	0.059	ug/m3
1,2-Dichloroethane	**15**	12	pptv	**0.061**	0.049	ug/m3
1,1,1-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Benzene	**1,000**	12	pptv	**3.2**	0.038	ug/m3
Carbon Tetrachloride	**73**	12	pptv	**0.46**	0.075	ug/m3
1,2-Dichloropropane	ND	12	pptv	ND	0.055	ug/m3
Bromodichloromethane	ND	12	pptv	ND	0.080	ug/m3
Trichloroethene	ND	12	pptv	ND	0.064	ug/m3
cis-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
trans-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
1,1,2-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Toluene	**1,500**	12	pptv	**5.8**	0.045	ug/m3
Dibromochloromethane	ND	12	pptv	ND	0.10	ug/m3
1,2-Dibromoethane	ND	12	pptv	ND	0.092	ug/m3
Tetrachloroethene	ND	12	pptv	ND	0.081	ug/m3
Chlorobenzene	ND	12	pptv	ND	0.055	ug/m3
Ethylbenzene	**59**	12	pptv	**0.26**	0.052	ug/m3
m,p-Xylenes	**170**	12	pptv	**0.73**	0.052	ug/m3
Bromoform	ND	12	pptv	ND	0.12	ug/m3
Styrene	**30**	12	pptv	**0.13**	0.051	ug/m3
o-Xylene	**66**	12	pptv	**0.29**	0.052	ug/m3
2-Chlorotoluene	ND	12	pptv	ND	0.062	ug/m3
1,3,5-Trimethylbenzene	**15**	12	pptv	**0.074**	0.059	ug/m3
1,2,4-Trimethylbenzene	**59**	12	pptv	**0.29**	0.059	ug/m3
Benzyl chloride	ND	12	pptv	ND	0.062	ug/m3
1,3-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,4-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2,4-Trichlorobenzene	ND	12	pptv	ND	0.089	ug/m3
1,1,2,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
1,1,1,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
Naphthalene	**14**	12	pptv	**0.074**	0.063	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-005 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	12	pptv	ND	0.13	ug/m3
Xylene (total)	**230**	12	pptv	**1.0**	0.052	ug/m3

518235-005 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB06-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-006 **Sampled:** 10/15/24 11:56 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.000 **Analyzed:** 10/16/24 15:33

518235-006 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.081**	0.039	ug/m3
Chloroethane	**17**	10	pptv	**0.045**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**180**	20	pptv	**0.62**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**31**	10	pptv	**0.15**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**230**	10	pptv	**0.74**	0.032	ug/m3
Carbon Tetrachloride	**74**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**420**	10	pptv	**1.6**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**64**	10	pptv	**0.28**	0.043	ug/m3
m,p-Xylenes	**170**	10	pptv	**0.74**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**26**	10	pptv	**0.11**	0.043	ug/m3
o-Xylene	**66**	10	pptv	**0.29**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**13**	10	pptv	**0.065**	0.049	ug/m3
1,2,4-Trimethylbenzene	**54**	10	pptv	**0.26**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-006 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**240**	10	pptv	**1.0**	0.043	ug/m3

518235-006 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB07-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-007	**Sampled:**	10/15/24 12:06	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 16:22		

518235-007 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**0.99**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**22**	10	pptv	**0.085**	0.039	ug/m3
Chloroethane	**33**	10	pptv	**0.088**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**190**	20	pptv	**0.67**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**29**	10	pptv	**0.14**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.061**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**220**	10	pptv	**0.72**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**390**	10	pptv	**1.5**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**60**	10	pptv	**0.26**	0.043	ug/m3
m,p-Xylenes	**160**	10	pptv	**0.71**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**29**	10	pptv	**0.12**	0.043	ug/m3
o-Xylene	**65**	10	pptv	**0.28**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**13**	10	pptv	**0.065**	0.049	ug/m3
1,2,4-Trimethylbenzene	**58**	10	pptv	**0.29**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.059**	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-007 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**230**	10	pptv	**0.99**	0.043	ug/m3

518235-007 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB08-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-008 **Sampled:** 10/15/24 12:11 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.100 **Analyzed:** 10/16/24 17:10

518235-008 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**490**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**17**	11	pptv	**0.12**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.080**	0.043	ug/m3
Chloroethane	**22**	11	pptv	**0.058**	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**200**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**210**	22	pptv	**0.74**	0.076	ug/m3
Freon 113	**61**	11	pptv	**0.47**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**28**	11	pptv	**0.14**	0.054	ug/m3
1,2-Dichloroethane	**15**	11	pptv	**0.062**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**230**	11	pptv	**0.74**	0.035	ug/m3
Carbon Tetrachloride	**74**	11	pptv	**0.47**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**400**	11	pptv	**1.5**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**59**	11	pptv	**0.26**	0.048	ug/m3
m,p-Xylenes	**160**	11	pptv	**0.70**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**23**	11	pptv	**0.099**	0.047	ug/m3
o-Xylene	**65**	11	pptv	**0.28**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**12**	11	pptv	**0.061**	0.054	ug/m3
1,2,4-Trimethylbenzene	**54**	11	pptv	**0.27**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	ND	11	pptv	ND	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-008 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**230**	11	pptv	**0.98**	0.048	ug/m3

518235-008 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB09-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-009 **Sampled:** 10/15/24 11:05 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.000 **Analyzed:** 10/16/24 17:59

518235-009 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**24**	10	pptv	**0.092**	0.039	ug/m3
Chloroethane	**16**	10	pptv	**0.042**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**200**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**820**	20	pptv	**2.8**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**37**	10	pptv	**0.18**	0.049	ug/m3
1,2-Dichloroethane	**16**	10	pptv	**0.063**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**250**	10	pptv	**0.81**	0.032	ug/m3
Carbon Tetrachloride	**74**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**420**	10	pptv	**1.6**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**62**	10	pptv	**0.27**	0.043	ug/m3
m,p-Xylenes	**180**	10	pptv	**0.79**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**29**	10	pptv	**0.12**	0.043	ug/m3
o-Xylene	**72**	10	pptv	**0.31**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**14**	10	pptv	**0.068**	0.049	ug/m3
1,2,4-Trimethylbenzene	**59**	10	pptv	**0.29**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**15**	10	pptv	**0.078**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-009 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**250**	10	pptv	**1.1**	0.043	ug/m3

518235-009 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB10-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-010	**Sampled:**	10/15/24 11:12	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 18:48		

518235-010 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**0.98**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.083**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**250**	20	pptv	**0.85**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**31**	10	pptv	**0.15**	0.049	ug/m3
1,2-Dichloroethane	**18**	10	pptv	**0.072**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**310**	10	pptv	**0.99**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**350**	10	pptv	**1.3**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**100**	10	pptv	**0.45**	0.043	ug/m3
m,p-Xylenes	**270**	10	pptv	**1.2**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**32**	10	pptv	**0.13**	0.043	ug/m3
o-Xylene	**84**	10	pptv	**0.37**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**28**	10	pptv	**0.14**	0.049	ug/m3
1,2,4-Trimethylbenzene	**100**	10	pptv	**0.50**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**26**	10	pptv	**0.14**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-010 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**350**	10	pptv	**1.5**	0.043	ug/m3

518235-010 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	94	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB11-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-011 **Sampled:** 10/15/24 11:16 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.000 **Analyzed:** 10/16/24 19:37

518235-011 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**23**	10	pptv	**0.089**	0.039	ug/m3
Chloroethane	**34**	10	pptv	**0.089**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**160**	20	pptv	**0.57**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**29**	10	pptv	**0.14**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.061**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**240**	10	pptv	**0.78**	0.032	ug/m3
Carbon Tetrachloride	**74**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**440**	10	pptv	**1.6**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**61**	10	pptv	**0.27**	0.043	ug/m3
m,p-Xylenes	**180**	10	pptv	**0.78**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**31**	10	pptv	**0.13**	0.043	ug/m3
o-Xylene	**70**	10	pptv	**0.31**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**15**	10	pptv	**0.073**	0.049	ug/m3
1,2,4-Trimethylbenzene	**60**	10	pptv	**0.30**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**16**	10	pptv	**0.086**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-011 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**250**	10	pptv	**1.1**	0.043	ug/m3

518235-011 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB12-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-012	**Sampled:**	10/15/24 11:20	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 20:25		

518235-012 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.081**	0.039	ug/m3
Chloroethane	**39**	10	pptv	**0.10**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**160**	20	pptv	**0.57**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**29**	10	pptv	**0.14**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**270**	10	pptv	**0.85**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**490**	10	pptv	**1.9**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**68**	10	pptv	**0.29**	0.043	ug/m3
m,p-Xylenes	**190**	10	pptv	**0.83**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**32**	10	pptv	**0.14**	0.043	ug/m3
o-Xylene	**75**	10	pptv	**0.33**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**15**	10	pptv	**0.074**	0.049	ug/m3
1,2,4-Trimethylbenzene	**64**	10	pptv	**0.32**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.059**	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-012 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**270**	10	pptv	**1.2**	0.043	ug/m3

518235-012 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB13-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-013 **Sampled:** 10/15/24 11:24 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.100 **Analyzed:** 10/16/24 21:14

518235-013 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**490**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.083**	0.043	ug/m3
Chloroethane	ND	11	pptv	ND	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**170**	22	pptv	**0.60**	0.076	ug/m3
Freon 113	**59**	11	pptv	**0.46**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**35**	11	pptv	**0.17**	0.054	ug/m3
1,2-Dichloroethane	**16**	11	pptv	**0.065**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**280**	11	pptv	**0.89**	0.035	ug/m3
Carbon Tetrachloride	**72**	11	pptv	**0.46**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**530**	11	pptv	**2.0**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	**12**	11	pptv	**0.080**	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**72**	11	pptv	**0.31**	0.048	ug/m3
m,p-Xylenes	**220**	11	pptv	**0.94**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**76**	11	pptv	**0.32**	0.047	ug/m3
o-Xylene	**86**	11	pptv	**0.37**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**17**	11	pptv	**0.085**	0.054	ug/m3
1,2,4-Trimethylbenzene	**72**	11	pptv	**0.35**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**23**	11	pptv	**0.12**	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-013 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**300**	11	pptv	**1.3**	0.048	ug/m3

518235-013 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB14-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-014	**Sampled:**	10/15/24 11:28	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 22:03		

518235-014 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**16**	10	pptv	**0.11**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**22**	10	pptv	**0.085**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**170**	20	pptv	**0.59**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**27**	10	pptv	**0.13**	0.049	ug/m3
1,2-Dichloroethane	**16**	10	pptv	**0.063**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**240**	10	pptv	**0.78**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**350**	10	pptv	**1.3**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**60**	10	pptv	**0.26**	0.043	ug/m3
m,p-Xylenes	**170**	10	pptv	**0.75**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**20**	10	pptv	**0.086**	0.043	ug/m3
o-Xylene	**68**	10	pptv	**0.30**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**14**	10	pptv	**0.067**	0.049	ug/m3
1,2,4-Trimethylbenzene	**55**	10	pptv	**0.27**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.057**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-014 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**240**	10	pptv	**1.1**	0.043	ug/m3

518235-014 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB17-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-015	**Sampled:**	10/15/24 09:40	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.100	**Analyzed:**	10/16/24 22:52		

518235-015 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**480**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**22**	11	pptv	**0.084**	0.043	ug/m3
Chloroethane	**12**	11	pptv	**0.032**	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**150**	22	pptv	**0.53**	0.076	ug/m3
Freon 113	**60**	11	pptv	**0.46**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**29**	11	pptv	**0.14**	0.054	ug/m3
1,2-Dichloroethane	**15**	11	pptv	**0.062**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**260**	11	pptv	**0.82**	0.035	ug/m3
Carbon Tetrachloride	**72**	11	pptv	**0.46**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**450**	11	pptv	**1.7**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**69**	11	pptv	**0.30**	0.048	ug/m3
m,p-Xylenes	**200**	11	pptv	**0.89**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**30**	11	pptv	**0.13**	0.047	ug/m3
o-Xylene	**81**	11	pptv	**0.35**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**17**	11	pptv	**0.085**	0.054	ug/m3
1,2,4-Trimethylbenzene	**67**	11	pptv	**0.33**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**14**	11	pptv	**0.072**	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-015 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**290**	11	pptv	**1.2**	0.048	ug/m3

518235-015 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB18-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-016	**Sampled:**	10/15/24 10:28	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.200	**Analyzed:**	10/16/24 23:40		

518235-016 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**480**	12	pptv	**2.4**	0.059	ug/m3
Chloromethane	**510**	120	pptv	**1.1**	0.25	ug/m3
Freon 114	**17**	12	pptv	**0.12**	0.084	ug/m3
Vinyl Chloride	ND	12	pptv	ND	0.031	ug/m3
Bromomethane	**28**	12	pptv	**0.11**	0.047	ug/m3
Chloroethane	**13**	12	pptv	**0.035**	0.032	ug/m3
Vinyl bromide	ND	12	pptv	ND	0.052	ug/m3
Trichlorofluoromethane	**200**	12	pptv	**1.1**	0.067	ug/m3
1,1-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Methylene Chloride	**160**	24	pptv	**0.56**	0.083	ug/m3
Freon 113	**62**	12	pptv	**0.47**	0.092	ug/m3
trans-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
1,1-Dichloroethane	ND	12	pptv	ND	0.049	ug/m3
cis-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Chloroform	**29**	12	pptv	**0.14**	0.059	ug/m3
1,2-Dichloroethane	**15**	12	pptv	**0.062**	0.049	ug/m3
1,1,1-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Benzene	**250**	12	pptv	**0.79**	0.038	ug/m3
Carbon Tetrachloride	**75**	12	pptv	**0.47**	0.075	ug/m3
1,2-Dichloropropane	ND	12	pptv	ND	0.055	ug/m3
Bromodichloromethane	ND	12	pptv	ND	0.080	ug/m3
Trichloroethene	ND	12	pptv	ND	0.064	ug/m3
cis-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
trans-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
1,1,2-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Toluene	**440**	12	pptv	**1.7**	0.045	ug/m3
Dibromochloromethane	ND	12	pptv	ND	0.10	ug/m3
1,2-Dibromoethane	ND	12	pptv	ND	0.092	ug/m3
Tetrachloroethene	ND	12	pptv	ND	0.081	ug/m3
Chlorobenzene	ND	12	pptv	ND	0.055	ug/m3
Ethylbenzene	**68**	12	pptv	**0.30**	0.052	ug/m3
m,p-Xylenes	**200**	12	pptv	**0.88**	0.052	ug/m3
Bromoform	ND	12	pptv	ND	0.12	ug/m3
Styrene	**31**	12	pptv	**0.13**	0.051	ug/m3
o-Xylene	**81**	12	pptv	**0.35**	0.052	ug/m3
2-Chlorotoluene	ND	12	pptv	ND	0.062	ug/m3
1,3,5-Trimethylbenzene	**22**	12	pptv	**0.11**	0.059	ug/m3
1,2,4-Trimethylbenzene	**89**	12	pptv	**0.44**	0.059	ug/m3
Benzyl chloride	ND	12	pptv	ND	0.062	ug/m3
1,3-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,4-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2,4-Trichlorobenzene	ND	12	pptv	ND	0.089	ug/m3
1,1,2,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
1,1,1,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
Naphthalene	**14**	12	pptv	**0.073**	0.063	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-016 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	12	pptv	ND	0.13	ug/m3
Xylene (total)	**280**	12	pptv	**1.2**	0.052	ug/m3

518235-016 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB19-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-017	**Sampled:**	10/15/24 14:44	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.100	**Analyzed:**	10/17/24 00:29		

518235-017 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**500**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.080**	0.043	ug/m3
Chloroethane	**26**	11	pptv	**0.069**	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**140**	22	pptv	**0.50**	0.076	ug/m3
Freon 113	**59**	11	pptv	**0.45**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**27**	11	pptv	**0.13**	0.054	ug/m3
1,2-Dichloroethane	**17**	11	pptv	**0.067**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**320**	11	pptv	**1.0**	0.035	ug/m3
Carbon Tetrachloride	**71**	11	pptv	**0.45**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**480**	11	pptv	**1.8**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**72**	11	pptv	**0.31**	0.048	ug/m3
m,p-Xylenes	**220**	11	pptv	**0.95**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**42**	11	pptv	**0.18**	0.047	ug/m3
o-Xylene	**86**	11	pptv	**0.37**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**17**	11	pptv	**0.081**	0.054	ug/m3
1,2,4-Trimethylbenzene	**62**	11	pptv	**0.30**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	ND	11	pptv	ND	0.058	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-017 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**300**	11	pptv	**1.3**	0.048	ug/m3

518235-017 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	98	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BS **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1195606 **Batch#:** 352933 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 10/16/24 06:49 **Analyst:** OHD

QC1195606 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits
Freon 12	200.0	213.0	pptv	107	70-130
Chloromethane	200.0	214.0	pptv	107	70-130
Freon 114	200.0	220.1	pptv	110	70-130
Vinyl Chloride	200.0	206.4	pptv	103	70-130
Bromomethane	200.0	215.4	pptv	108	70-130
Chloroethane	200.0	195.5	pptv	98	70-130
Vinyl bromide	200.0	200.5	pptv	100	70-130
Trichlorofluoromethane	200.0	207.1	pptv	104	70-130
1,1-Dichloroethene	200.0	196.8	pptv	98	70-130
Methylene Chloride	200.0	186.6	pptv	93	70-130
Freon 113	200.0	203.2	pptv	102	70-130
trans-1,2-Dichloroethene	200.0	194.4	pptv	97	70-130
1,1-Dichloroethane	200.0	197.8	pptv	99	70-130
cis-1,2-Dichloroethene	200.0	192.0	pptv	96	70-130
Chloroform	200.0	201.8	pptv	101	70-130
1,2-Dichloroethane	200.0	200.7	pptv	100	70-130
1,1,1-Trichloroethane	200.0	205.5	pptv	103	70-130
Benzene	200.0	186.9	pptv	93	70-130
Carbon Tetrachloride	200.0	206.8	pptv	103	70-130
1,2-Dichloropropane	200.0	201.5	pptv	101	70-130
Bromodichloromethane	200.0	210.8	pptv	105	70-130
Trichloroethene	200.0	204.0	pptv	102	70-130
cis-1,3-Dichloropropene	200.0	202.8	pptv	101	70-130
trans-1,3-Dichloropropene	200.0	203.6	pptv	102	70-130
1,1,2-Trichloroethane	200.0	205.8	pptv	103	70-130
Toluene	200.0	184.5	pptv	92	70-130
Dibromochloromethane	200.0	214.0	pptv	107	70-130
1,2-Dibromoethane	200.0	203.3	pptv	102	70-130
Tetrachloroethene	200.0	204.4	pptv	102	70-130
Chlorobenzene	200.0	194.5	pptv	97	70-130
Ethylbenzene	200.0	181.9	pptv	91	70-130
m,p-Xylenes	400.0	378.4	pptv	95	70-130
Bromoform	200.0	214.1	pptv	107	70-130
Styrene	200.0	183.5	pptv	92	70-130
o-Xylene	200.0	194.7	pptv	97	70-130
2-Chlorotoluene	200.0	191.6	pptv	96	70-130
1,3,5-Trimethylbenzene	200.0	198.7	pptv	99	70-130
1,2,4-Trimethylbenzene	200.0	189.8	pptv	95	70-130
Benzyl chloride	200.0	209.0	pptv	105	70-130
1,3-Dichlorobenzene	200.0	199.1	pptv	100	70-130
1,4-Dichlorobenzene	200.0	201.7	pptv	101	70-130
1,2-Dichlorobenzene	200.0	195.0	pptv	97	70-130
1,2,4-Trichlorobenzene	200.0	165.9	pptv	83	70-130
1,1,2,2-Tetrachloroethane	200.0	200.9	pptv	100	70-130
1,1,1,2-Tetrachloroethane	200.0	206.6	pptv	103	70-130
Naphthalene	200.0	142.3	pptv	71	70-130
Hexachlorobutadiene	200.0	178.8	pptv	89	70-130

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1195606 Surrogate	%REC	Limits
Bromofluorobenzene	103	70-130

Type: BSD **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1195607 **Batch#:** 352933 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 10/16/24 07:31 **Analyst:** OHD

QC1195607 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Freon 12	200.0	216.9	pptv	108	70-130	2	25
Chloromethane	200.0	217.1	pptv	109	70-130	1	25
Freon 114	200.0	223.8	pptv	112	70-130	2	25
Vinyl Chloride	200.0	211.3	pptv	106	70-130	2	25
Bromomethane	200.0	220.7	pptv	110	70-130	2	25
Chloroethane	200.0	198.9	pptv	99	70-130	2	25
Vinyl bromide	200.0	203.9	pptv	102	70-130	2	25
Trichlorofluoromethane	200.0	210.7	pptv	105	70-130	2	25
1,1-Dichloroethene	200.0	201.1	pptv	101	70-130	2	25
Methylene Chloride	200.0	190.5	pptv	95	70-130	2	25
Freon 113	200.0	206.7	pptv	103	70-130	2	25
trans-1,2-Dichloroethene	200.0	198.7	pptv	99	70-130	2	25
1,1-Dichloroethane	200.0	202.3	pptv	101	70-130	2	25
cis-1,2-Dichloroethene	200.0	197.2	pptv	99	70-130	3	25
Chloroform	200.0	205.2	pptv	103	70-130	2	25
1,2-Dichloroethane	200.0	204.8	pptv	102	70-130	2	25
1,1,1-Trichloroethane	200.0	209.6	pptv	105	70-130	2	25
Benzene	200.0	191.1	pptv	96	70-130	2	25
Carbon Tetrachloride	200.0	210.1	pptv	105	70-130	2	25
1,2-Dichloropropane	200.0	204.7	pptv	102	70-130	2	25
Bromodichloromethane	200.0	213.0	pptv	107	70-130	1	25
Trichloroethene	200.0	206.1	pptv	103	70-130	1	25
cis-1,3-Dichloropropene	200.0	206.5	pptv	103	70-130	2	25
trans-1,3-Dichloropropene	200.0	207.0	pptv	104	70-130	2	25
1,1,2-Trichloroethane	200.0	207.9	pptv	104	70-130	1	25
Toluene	200.0	189.0	pptv	95	70-130	2	25
Dibromochloromethane	200.0	216.8	pptv	108	70-130	1	25
1,2-Dibromoethane	200.0	207.1	pptv	104	70-130	2	25
Tetrachloroethene	200.0	207.5	pptv	104	70-130	1	25
Chlorobenzene	200.0	197.3	pptv	99	70-130	1	25
Ethylbenzene	200.0	185.5	pptv	93	70-130	2	25
m,p-Xylenes	400.0	385.7	pptv	96	70-130	2	25
Bromoform	200.0	215.7	pptv	108	70-130	1	25
Styrene	200.0	187.6	pptv	94	70-130	2	25
o-Xylene	200.0	199.2	pptv	100	70-130	2	25
2-Chlorotoluene	200.0	196.0	pptv	98	70-130	2	25
1,3,5-Trimethylbenzene	200.0	203.2	pptv	102	70-130	2	25
1,2,4-Trimethylbenzene	200.0	195.7	pptv	98	70-130	3	25
Benzyl chloride	200.0	215.5	pptv	108	70-130	3	25
1,3-Dichlorobenzene	200.0	206.9	pptv	103	70-130	4	25
1,4-Dichlorobenzene	200.0	201.0	pptv	100	70-130	0	25
1,2-Dichlorobenzene	200.0	199.2	pptv	100	70-130	2	25
1,2,4-Trichlorobenzene	200.0	171.2	pptv	86	70-130	3	25
1,1,2,2-Tetrachloroethane	200.0	203.5	pptv	102	70-130	1	25
1,1,1,2-Tetrachloroethane	200.0	207.9	pptv	104	70-130	1	25

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1195607 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Naphthalene	200.0	149.1	pptv	75	70-130	5	25
Hexachlorobutadiene	200.0	182.7	pptv	91	70-130	2	25

QC1195607 Surrogate	%REC	Limits
Bromofluorobenzene	102	70-130

Legend

RPD: Relative Percent Difference

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BLANK **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1195608 **Batch#:** 352933 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 10/16/24 08:59 **Analyst:** OHD

QC1195608 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	ND	10	pptv	ND	0.049	ug/m3
Chloromethane	ND	100	pptv	ND	0.21	ug/m3
Freon 114	ND	10	pptv	ND	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	ND	10	pptv	ND	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	ND	10	pptv	ND	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	ND	20	pptv	ND	0.069	ug/m3
Freon 113	ND	10	pptv	ND	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	ND	10	pptv	ND	0.049	ug/m3
1,2-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	ND	10	pptv	ND	0.032	ug/m3
Carbon Tetrachloride	ND	10	pptv	ND	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	ND	10	pptv	ND	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	ND	10	pptv	ND	0.043	ug/m3
m,p-Xylenes	ND	10	pptv	ND	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	ND	10	pptv	ND	0.043	ug/m3
o-Xylene	ND	10	pptv	ND	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
1,2,4-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	ND	10	pptv	ND	0.043	ug/m3

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1195608 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	90	70-130	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

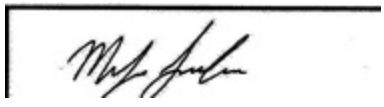
Lab Job Number : 522442
Report Level : II
Report Date : 12/23/2024

Analytical Report *prepared for:*

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Location: Walnut Bluff Workplan

Authorized for release by:



Miguel Gamboa, Project Manager
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 522442
Location: Walnut Bluff Workplan
Date Received: 12/16/24

Sample ID	Lab ID	Collected	Matrix
WB02-14D-R2	522442-001	12/16/24 14:03	Air
WB03-14D-R2	522442-002	12/16/24 14:10	Air
WB05-14D-R2	522442-003	12/16/24 14:15	Air
WB10-14D-R2	522442-004	12/16/24 14:24	Air

ENTHALPY ANALYTICAL

Case Narrative

Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403
Yola Bayram

Lab Job Number: 522442
Location: Walnut Bluff Workplan
Date Received: 12/16/24

This data package contains sample and QC results for four air samples, requested for the above referenced project on 12/16/24. The samples were received intact.

Volatile Organics in Air by MS (EPA TO-15 SIM):
No analytical problems were encountered.

ENTHALPY ANALYTICAL

Detection Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 522442
Location: Walnut Bluff Workplan
Date Received: 12/16/24

Sample ID: WB02-14D-R2 **Lab ID: 522442-001** **Collected: 12/16/24 14:03**
Matrix: Air

522442-001 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	10
Freon 12	**2.2**		ug/m3	0.049
Chloromethane	**540**		pptv	100
Chloromethane	**1.1**		ug/m3	0.21
Freon 114	**15**		pptv	10
Freon 114	**0.10**		ug/m3	0.070
Bromomethane	**38**		pptv	10
Bromomethane	**0.15**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**240**		pptv	20
Methylene Chloride	**0.84**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**39**		pptv	10
Chloroform	**0.19**		ug/m3	0.049
1,2-Dichloroethane	**26**		pptv	10
1,2-Dichloroethane	**0.10**		ug/m3	0.040
Benzene	**600**		pptv	10
Benzene	**1.9**		ug/m3	0.032
Carbon Tetrachloride	**70**		pptv	10
Carbon Tetrachloride	**0.44**		ug/m3	0.063
Toluene	**870**		pptv	10
Toluene	**3.3**		ug/m3	0.038
Tetrachloroethene	**15**		pptv	10
Tetrachloroethene	**0.10**		ug/m3	0.068
Ethylbenzene	**200**		pptv	10
Ethylbenzene	**0.88**		ug/m3	0.043
m,p-Xylenes	**580**		pptv	10
m,p-Xylenes	**2.5**		ug/m3	0.043
Styrene	**96**		pptv	10
Styrene	**0.41**		ug/m3	0.043
o-Xylene	**220**		pptv	10
o-Xylene	**0.95**		ug/m3	0.043
1,3,5-Trimethylbenzene	**68**		pptv	10
1,3,5-Trimethylbenzene	**0.34**		ug/m3	0.049
1,2,4-Trimethylbenzene	**240**		pptv	10
1,2,4-Trimethylbenzene	**1.2**		ug/m3	0.049
1,4-Dichlorobenzene	**14**		pptv	10
1,4-Dichlorobenzene	**0.082**		ug/m3	0.060

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

522442-001 Analyte	Result	Qual	Units	RL
Naphthalene	**30**		pptv	10
Naphthalene	**0.15**		ug/m3	0.052
Xylene (total)	**800**		pptv	10
Xylene (total)	**3.5**		ug/m3	0.043

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB03-14D-R2	Lab ID: 522442-002	Collected: 12/16/24 14:10
	Matrix: Air	

522442-002 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	10
Freon 12	**2.2**		ug/m3	0.049
Chloromethane	**550**		pptv	100
Chloromethane	**1.1**		ug/m3	0.21
Freon 114	**15**		pptv	10
Freon 114	**0.10**		ug/m3	0.070
Bromomethane	**40**		pptv	10
Bromomethane	**0.16**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**270**		pptv	20
Methylene Chloride	**0.93**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**40**		pptv	10
Chloroform	**0.20**		ug/m3	0.049
1,2-Dichloroethane	**24**		pptv	10
1,2-Dichloroethane	**0.097**		ug/m3	0.040
Benzene	**540**		pptv	10
Benzene	**1.7**		ug/m3	0.032
Carbon Tetrachloride	**72**		pptv	10
Carbon Tetrachloride	**0.45**		ug/m3	0.063
Toluene	**860**		pptv	10
Toluene	**3.2**		ug/m3	0.038
Tetrachloroethene	**16**		pptv	10
Tetrachloroethene	**0.11**		ug/m3	0.068
Ethylbenzene	**170**		pptv	10
Ethylbenzene	**0.73**		ug/m3	0.043
m,p-Xylenes	**540**		pptv	10
m,p-Xylenes	**2.3**		ug/m3	0.043
Styrene	**110**		pptv	10
Styrene	**0.46**		ug/m3	0.043
o-Xylene	**200**		pptv	10
o-Xylene	**0.89**		ug/m3	0.043
1,3,5-Trimethylbenzene	**54**		pptv	10
1,3,5-Trimethylbenzene	**0.26**		ug/m3	0.049
1,2,4-Trimethylbenzene	**190**		pptv	10
1,2,4-Trimethylbenzene	**0.92**		ug/m3	0.049
1,4-Dichlorobenzene	**15**		pptv	10
1,4-Dichlorobenzene	**0.092**		ug/m3	0.060
Naphthalene	**21**		pptv	10
Naphthalene	**0.11**		ug/m3	0.052
Xylene (total)	**740**		pptv	10
Xylene (total)	**3.2**		ug/m3	0.043

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB05-14D-R2	Lab ID: 522442-003	Collected: 12/16/24 14:15
	Matrix: Air	

522442-003 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	11
Freon 12	**2.2**		ug/m3	0.054
Chloromethane	**540**		pptv	110
Chloromethane	**1.1**		ug/m3	0.23
Freon 114	**15**		pptv	11
Freon 114	**0.10**		ug/m3	0.077
Bromomethane	**39**		pptv	11
Bromomethane	**0.15**		ug/m3	0.043
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**260**		pptv	22
Methylene Chloride	**0.91**		ug/m3	0.076
Freon 113	**61**		pptv	11
Freon 113	**0.47**		ug/m3	0.084
Chloroform	**39**		pptv	11
Chloroform	**0.19**		ug/m3	0.054
1,2-Dichloroethane	**24**		pptv	11
1,2-Dichloroethane	**0.096**		ug/m3	0.045
Benzene	**550**		pptv	11
Benzene	**1.7**		ug/m3	0.035
Carbon Tetrachloride	**71**		pptv	11
Carbon Tetrachloride	**0.45**		ug/m3	0.069
Toluene	**890**		pptv	11
Toluene	**3.4**		ug/m3	0.041
Tetrachloroethene	**17**		pptv	11
Tetrachloroethene	**0.12**		ug/m3	0.075
Ethylbenzene	**170**		pptv	11
Ethylbenzene	**0.72**		ug/m3	0.048
m,p-Xylenes	**520**		pptv	11
m,p-Xylenes	**2.3**		ug/m3	0.048
Styrene	**110**		pptv	11
Styrene	**0.47**		ug/m3	0.047
o-Xylene	**200**		pptv	11
o-Xylene	**0.87**		ug/m3	0.048
1,3,5-Trimethylbenzene	**68**		pptv	11
1,3,5-Trimethylbenzene	**0.33**		ug/m3	0.054
1,2,4-Trimethylbenzene	**260**		pptv	11
1,2,4-Trimethylbenzene	**1.3**		ug/m3	0.054
1,4-Dichlorobenzene	**15**		pptv	11
1,4-Dichlorobenzene	**0.090**		ug/m3	0.066
Naphthalene	**31**		pptv	11
Naphthalene	**0.16**		ug/m3	0.058
Xylene (total)	**720**		pptv	11
Xylene (total)	**3.1**		ug/m3	0.048

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB10-14D-R2	Lab ID: 522442-004	Collected: 12/16/24 14:24
	Matrix: Air	

522442-004 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	10
Freon 12	**2.2**		ug/m3	0.049
Chloromethane	**550**		pptv	100
Chloromethane	**1.1**		ug/m3	0.21
Freon 114	**15**		pptv	10
Freon 114	**0.10**		ug/m3	0.070
Bromomethane	**37**		pptv	10
Bromomethane	**0.15**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**250**		pptv	20
Methylene Chloride	**0.87**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**41**		pptv	10
Chloroform	**0.20**		ug/m3	0.049
1,2-Dichloroethane	**25**		pptv	10
1,2-Dichloroethane	**0.10**		ug/m3	0.040
Benzene	**610**		pptv	10
Benzene	**1.9**		ug/m3	0.032
Carbon Tetrachloride	**71**		pptv	10
Carbon Tetrachloride	**0.45**		ug/m3	0.063
Toluene	**850**		pptv	10
Toluene	**3.2**		ug/m3	0.038
Tetrachloroethene	**17**		pptv	10
Tetrachloroethene	**0.12**		ug/m3	0.068
Ethylbenzene	**190**		pptv	10
Ethylbenzene	**0.84**		ug/m3	0.043
m,p-Xylenes	**570**		pptv	10
m,p-Xylenes	**2.5**		ug/m3	0.043
Styrene	**85**		pptv	10
Styrene	**0.36**		ug/m3	0.043
o-Xylene	**200**		pptv	10
o-Xylene	**0.87**		ug/m3	0.043
1,3,5-Trimethylbenzene	**62**		pptv	10
1,3,5-Trimethylbenzene	**0.30**		ug/m3	0.049
1,2,4-Trimethylbenzene	**220**		pptv	10
1,2,4-Trimethylbenzene	**1.1**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.060**		ug/m3	0.052
Xylene (total)	**770**		pptv	10
Xylene (total)	**3.3**		ug/m3	0.043

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

931 W. Barkley Ave., Orange, CA 92868
Phone: (714) 771-6900 Fax: (714) 538-1209

ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. 522442

Page 1 of 1

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Catalyst Environmental Solutions	Name:	Walnut Bluff workplan	
Report To:	Yola Bayram	Number:		Lab Quote Number:
Email:	ybayram@ce.solutions	Address:		
Address:	315 Montana Ave, Suite 311 Santa Monica, CA 90403			
		Global ID:		
Phone:	(313) 204-8477 Fax:	Sampled By:	Elizabeth Hwang	

Special Instructions:

Analysis Request: TO-15 sim

Required Turnaround Time: Standard [X] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	Comments
1	WB02-14D-R2	A	C70018	6L	A70014	12/2/24	14:02	30	12/16/24	14:03	7	
2	WB03-14D-R2	A	C70038	6L	A70099	12/2/24	14:07	30	12/16/24	14:10	4	
3	WB05-14D-R2	A	C70162	6L	A70230	12/2/24	14:13	30	12/16/24	14:15	7	
4	WB10-14D-R2	A	C70039	6L	A70577	12/2/24	14:22	30	12/16/24	14:24	5	
5												
6												
7												
8												
9												
10												

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:		Elizabeth Hwang		12/16/24 1526
RECEIVED BY:		Tris Kelly	Enthalpy	12/16/24 1526
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 12/16/24 WO# 522442 Client: Catalyst Environmental Solutions

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 12/16/24 By (initials) TLK Type of ice used : ☐ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

■ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun:_____CF:_____

Cooler Temp (°C) #1:_____/_____ #2:_____/_____ #3:_____/_____ #4:_____/_____ #5:_____/_____ #6:_____/_____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☐ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☑ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			x
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 12/16/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

Date Labeled 12/16/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB02-14D-R2	**Batch#:**	358120	**Prep:**	METHOD
Lab ID:	522442-001	**Sampled:**	12/16/24 14:03	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	12/18/24 02:12		

522442-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	10	pptv	**2.2**	0.049	ug/m3
Chloromethane	**540**	100	pptv	**1.1**	0.21	ug/m3
Freon 114	**15**	10	pptv	**0.10**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**38**	10	pptv	**0.15**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**240**	20	pptv	**0.84**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**39**	10	pptv	**0.19**	0.049	ug/m3
1,2-Dichloroethane	**26**	10	pptv	**0.10**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**600**	10	pptv	**1.9**	0.032	ug/m3
Carbon Tetrachloride	**70**	10	pptv	**0.44**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**870**	10	pptv	**3.3**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	**15**	10	pptv	**0.10**	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**200**	10	pptv	**0.88**	0.043	ug/m3
m,p-Xylenes	**580**	10	pptv	**2.5**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**96**	10	pptv	**0.41**	0.043	ug/m3
o-Xylene	**220**	10	pptv	**0.95**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**68**	10	pptv	**0.34**	0.049	ug/m3
1,2,4-Trimethylbenzene	**240**	10	pptv	**1.2**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	**14**	10	pptv	**0.082**	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**30**	10	pptv	**0.15**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**800**	10	pptv	**3.5**	0.043	ug/m3

522442-001 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB03-14D-R2	**Batch#:**	358299	**Prep:**	METHOD
Lab ID:	522442-002	**Sampled:**	12/16/24 14:10	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	12/18/24 12:27		

522442-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	10	pptv	**2.2**	0.049	ug/m3
Chloromethane	**550**	100	pptv	**1.1**	0.21	ug/m3
Freon 114	**15**	10	pptv	**0.10**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**40**	10	pptv	**0.16**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**270**	20	pptv	**0.93**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**40**	10	pptv	**0.20**	0.049	ug/m3
1,2-Dichloroethane	**24**	10	pptv	**0.097**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**540**	10	pptv	**1.7**	0.032	ug/m3
Carbon Tetrachloride	**72**	10	pptv	**0.45**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**860**	10	pptv	**3.2**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	**16**	10	pptv	**0.11**	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**170**	10	pptv	**0.73**	0.043	ug/m3
m,p-Xylenes	**540**	10	pptv	**2.3**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**110**	10	pptv	**0.46**	0.043	ug/m3
o-Xylene	**200**	10	pptv	**0.89**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**54**	10	pptv	**0.26**	0.049	ug/m3
1,2,4-Trimethylbenzene	**190**	10	pptv	**0.92**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	**15**	10	pptv	**0.092**	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**21**	10	pptv	**0.11**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**740**	10	pptv	**3.2**	0.043	ug/m3

522442-002 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	102	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB05-14D-R2	**Batch#:**	358120	**Prep:**	METHOD
Lab ID:	522442-003	**Sampled:**	12/16/24 14:15	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.100	**Analyzed:**	12/18/24 03:00		

522442-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	11	pptv	**2.2**	0.054	ug/m3
Chloromethane	**540**	110	pptv	**1.1**	0.23	ug/m3
Freon 114	**15**	11	pptv	**0.10**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**39**	11	pptv	**0.15**	0.043	ug/m3
Chloroethane	ND	11	pptv	ND	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**260**	22	pptv	**0.91**	0.076	ug/m3
Freon 113	**61**	11	pptv	**0.47**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**39**	11	pptv	**0.19**	0.054	ug/m3
1,2-Dichloroethane	**24**	11	pptv	**0.096**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**550**	11	pptv	**1.7**	0.035	ug/m3
Carbon Tetrachloride	**71**	11	pptv	**0.45**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**890**	11	pptv	**3.4**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	**17**	11	pptv	**0.12**	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**170**	11	pptv	**0.72**	0.048	ug/m3
m,p-Xylenes	**520**	11	pptv	**2.3**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**110**	11	pptv	**0.47**	0.047	ug/m3
o-Xylene	**200**	11	pptv	**0.87**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**68**	11	pptv	**0.33**	0.054	ug/m3
1,2,4-Trimethylbenzene	**260**	11	pptv	**1.3**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	**15**	11	pptv	**0.090**	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**31**	11	pptv	**0.16**	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**720**	11	pptv	**3.1**	0.048	ug/m3

522442-003 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	100	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB10-14D-R2	**Batch#:**	358120	**Prep:**	METHOD
Lab ID:	522442-004	**Sampled:**	12/16/24 14:24	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	12/18/24 03:49		

522442-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	10	pptv	**2.2**	0.049	ug/m3
Chloromethane	**550**	100	pptv	**1.1**	0.21	ug/m3
Freon 114	**15**	10	pptv	**0.10**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**37**	10	pptv	**0.15**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**250**	20	pptv	**0.87**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**41**	10	pptv	**0.20**	0.049	ug/m3
1,2-Dichloroethane	**25**	10	pptv	**0.10**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**610**	10	pptv	**1.9**	0.032	ug/m3
Carbon Tetrachloride	**71**	10	pptv	**0.45**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**850**	10	pptv	**3.2**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	**17**	10	pptv	**0.12**	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**190**	10	pptv	**0.84**	0.043	ug/m3
m,p-Xylenes	**570**	10	pptv	**2.5**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**85**	10	pptv	**0.36**	0.043	ug/m3
o-Xylene	**200**	10	pptv	**0.87**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**62**	10	pptv	**0.30**	0.049	ug/m3
1,2,4-Trimethylbenzene	**220**	10	pptv	**1.1**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.060**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**770**	10	pptv	**3.3**	0.043	ug/m3

522442-004 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BS **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1212995 **Batch#:** 358120 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/17/24 09:37 **Analyst:** OHD

QC1212995 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits
Freon 12	100.0	100.6	pptv	101	70-130
Chloromethane	100.0	103.1	pptv	103	70-130
Freon 114	100.0	101.4	pptv	101	70-130
Vinyl Chloride	100.0	102.1	pptv	102	70-130
Bromomethane	100.0	100.7	pptv	101	70-130
Chloroethane	100.0	98.78	pptv	99	70-130
Vinyl bromide	100.0	103.4	pptv	103	70-130
Trichlorofluoromethane	100.0	100.9	pptv	101	70-130
1,1-Dichloroethene	100.0	104.4	pptv	104	70-130
Methylene Chloride	100.0	100.7	pptv	101	70-130
Freon 113	100.0	101.5	pptv	102	70-130
trans-1,2-Dichloroethene	100.0	101.7	pptv	102	70-130
1,1-Dichloroethane	100.0	101.2	pptv	101	70-130
cis-1,2-Dichloroethene	100.0	101.5	pptv	102	70-130
Chloroform	100.0	101.0	pptv	101	70-130
1,2-Dichloroethane	100.0	100.2	pptv	100	70-130
1,1,1-Trichloroethane	100.0	99.82	pptv	100	70-130
Benzene	100.0	96.86	pptv	97	70-130
Carbon Tetrachloride	100.0	98.68	pptv	99	70-130
1,2-Dichloropropane	100.0	101.8	pptv	102	70-130
Bromodichloromethane	100.0	98.05	pptv	98	70-130
Trichloroethene	100.0	101.5	pptv	102	70-130
cis-1,3-Dichloropropene	100.0	101.3	pptv	101	70-130
trans-1,3-Dichloropropene	100.0	101.2	pptv	101	70-130
1,1,2-Trichloroethane	100.0	100.7	pptv	101	70-130
Toluene	100.0	88.25	pptv	88	70-130
Dibromochloromethane	100.0	96.65	pptv	97	70-130
1,2-Dibromoethane	100.0	98.05	pptv	98	70-130
Tetrachloroethene	100.0	103.7	pptv	104	70-130
Chlorobenzene	100.0	100.5	pptv	101	70-130
Ethylbenzene	100.0	97.08	pptv	97	70-130
m,p-Xylenes	200.0	191.6	pptv	96	70-130
Bromoform	100.0	96.20	pptv	96	70-130
Styrene	100.0	114.0	pptv	114	70-130
o-Xylene	100.0	97.59	pptv	98	70-130
2-Chlorotoluene	100.0	98.76	pptv	99	70-130
1,3,5-Trimethylbenzene	100.0	126.4	pptv	126	70-130
1,2,4-Trimethylbenzene	100.0	110.1	pptv	110	70-130
Benzyl chloride	100.0	90.91	pptv	91	70-130
1,3-Dichlorobenzene	100.0	100.7	pptv	101	70-130
1,4-Dichlorobenzene	100.0	97.99	pptv	98	70-130
1,2-Dichlorobenzene	100.0	97.58	pptv	98	70-130
1,2,4-Trichlorobenzene	100.0	85.15	pptv	85	70-130
1,1,2,2-Tetrachloroethane	100.0	100.7	pptv	101	70-130
1,1,1,2-Tetrachloroethane	100.0	98.44	pptv	98	70-130
Naphthalene	100.0	79.44	pptv	79	70-130
Hexachlorobutadiene	100.0	90.53	pptv	91	70-130

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1212995 Surrogate	%REC	Limits
Bromofluorobenzene	104	70-130

Type: BSD **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1212996 **Batch#:** 358120 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/17/24 10:20 **Analyst:** OHD

QC1212996 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Freon 12	100.0	102.8	pptv	103	70-130	2	25
Chloromethane	100.0	105.4	pptv	105	70-130	2	25
Freon 114	100.0	103.2	pptv	103	70-130	2	25
Vinyl Chloride	100.0	104.5	pptv	105	70-130	2	25
Bromomethane	100.0	104.0	pptv	104	70-130	3	25
Chloroethane	100.0	101.2	pptv	101	70-130	2	25
Vinyl bromide	100.0	105.6	pptv	106	70-130	2	25
Trichlorofluoromethane	100.0	103.1	pptv	103	70-130	2	25
1,1-Dichloroethene	100.0	106.4	pptv	106	70-130	2	25
Methylene Chloride	100.0	102.5	pptv	102	70-130	2	25
Freon 113	100.0	103.5	pptv	103	70-130	2	25
trans-1,2-Dichloroethene	100.0	103.4	pptv	103	70-130	2	25
1,1-Dichloroethane	100.0	103.1	pptv	103	70-130	2	25
cis-1,2-Dichloroethene	100.0	103.4	pptv	103	70-130	2	25
Chloroform	100.0	103.0	pptv	103	70-130	2	25
1,2-Dichloroethane	100.0	102.6	pptv	103	70-130	2	25
1,1,1-Trichloroethane	100.0	101.4	pptv	101	70-130	2	25
Benzene	100.0	98.66	pptv	99	70-130	2	25
Carbon Tetrachloride	100.0	100.5	pptv	100	70-130	2	25
1,2-Dichloropropane	100.0	104.8	pptv	105	70-130	3	25
Bromodichloromethane	100.0	100.9	pptv	101	70-130	3	25
Trichloroethene	100.0	104.1	pptv	104	70-130	3	25
cis-1,3-Dichloropropene	100.0	103.9	pptv	104	70-130	3	25
trans-1,3-Dichloropropene	100.0	104.4	pptv	104	70-130	3	25
1,1,2-Trichloroethane	100.0	103.3	pptv	103	70-130	3	25
Toluene	100.0	90.34	pptv	90	70-130	2	25
Dibromochloromethane	100.0	99.56	pptv	100	70-130	3	25
1,2-Dibromoethane	100.0	101.1	pptv	101	70-130	3	25
Tetrachloroethene	100.0	106.4	pptv	106	70-130	3	25
Chlorobenzene	100.0	103.8	pptv	104	70-130	3	25
Ethylbenzene	100.0	99.32	pptv	99	70-130	2	25
m,p-Xylenes	200.0	196.6	pptv	98	70-130	3	25
Bromoform	100.0	98.34	pptv	98	70-130	2	25
Styrene	100.0	116.8	pptv	117	70-130	2	25
o-Xylene	100.0	100.3	pptv	100	70-130	3	25
2-Chlorotoluene	100.0	101.1	pptv	101	70-130	2	25
1,3,5-Trimethylbenzene	100.0	129.7	pptv	130	70-130	3	25
1,2,4-Trimethylbenzene	100.0	113.5	pptv	114	70-130	3	25
Benzyl chloride	100.0	94.91	pptv	95	70-130	4	25
1,3-Dichlorobenzene	100.0	104.3	pptv	104	70-130	3	25
1,4-Dichlorobenzene	100.0	102.0	pptv	102	70-130	4	25
1,2-Dichlorobenzene	100.0	101.1	pptv	101	70-130	4	25
1,2,4-Trichlorobenzene	100.0	88.47	pptv	88	70-130	4	25
1,1,2,2-Tetrachloroethane	100.0	104.1	pptv	104	70-130	3	25
1,1,1,2-Tetrachloroethane	100.0	101.8	pptv	102	70-130	3	25

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1212996 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Naphthalene	100.0	82.72	pptv	83	70-130	4	25
Hexachlorobutadiene	100.0	93.77	pptv	94	70-130	4	25

QC1212996 Surrogate	%REC	Limits
Bromofluorobenzene	103	70-130

Legend

RPD: Relative Percent Difference

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BLANK **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1212997 **Batch#:** 358120 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/17/24 11:49 **Analyst:** OHD

QC1212997 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	ND	10	pptv	ND	0.049	ug/m3
Chloromethane	ND	100	pptv	ND	0.21	ug/m3
Freon 114	ND	10	pptv	ND	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	ND	10	pptv	ND	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	ND	10	pptv	ND	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	ND	20	pptv	ND	0.069	ug/m3
Freon 113	ND	10	pptv	ND	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	ND	10	pptv	ND	0.049	ug/m3
1,2-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	ND	10	pptv	ND	0.032	ug/m3
Carbon Tetrachloride	ND	10	pptv	ND	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	ND	10	pptv	ND	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	ND	10	pptv	ND	0.043	ug/m3
m,p-Xylenes	ND	10	pptv	ND	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	ND	10	pptv	ND	0.043	ug/m3
o-Xylene	ND	10	pptv	ND	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
1,2,4-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	ND	10	pptv	ND	0.043	ug/m3

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1212997 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	90	70-130	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BS **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1213576 **Batch#:** 358299 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/18/24 07:32 **Analyst:** OHD

QC1213576 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits
Freon 12	100.0	100.2	pptv	100	70-130
Chloromethane	100.0	101.4	pptv	101	70-130
Freon 114	100.0	100.3	pptv	100	70-130
Vinyl Chloride	100.0	101.1	pptv	101	70-130
Bromomethane	100.0	98.00	pptv	98	70-130
Chloroethane	100.0	98.99	pptv	99	70-130
Vinyl bromide	100.0	103.1	pptv	103	70-130
Trichlorofluoromethane	100.0	100.2	pptv	100	70-130
1,1-Dichloroethene	100.0	104.9	pptv	105	70-130
Methylene Chloride	100.0	98.92	pptv	99	70-130
Freon 113	100.0	101.1	pptv	101	70-130
trans-1,2-Dichloroethene	100.0	101.6	pptv	102	70-130
1,1-Dichloroethane	100.0	100.6	pptv	101	70-130
cis-1,2-Dichloroethene	100.0	101.6	pptv	102	70-130
Chloroform	100.0	100.3	pptv	100	70-130
1,2-Dichloroethane	100.0	99.12	pptv	99	70-130
1,1,1-Trichloroethane	100.0	99.45	pptv	99	70-130
Benzene	100.0	97.97	pptv	98	70-130
Carbon Tetrachloride	100.0	97.79	pptv	98	70-130
1,2-Dichloropropane	100.0	100.5	pptv	100	70-130
Bromodichloromethane	100.0	96.32	pptv	96	70-130
Trichloroethene	100.0	100.0	pptv	100	70-130
cis-1,3-Dichloropropene	100.0	101.6	pptv	102	70-130
trans-1,3-Dichloropropene	100.0	100.8	pptv	101	70-130
1,1,2-Trichloroethane	100.0	98.92	pptv	99	70-130
Toluene	100.0	88.32	pptv	88	70-130
Dibromochloromethane	100.0	95.28	pptv	95	70-130
1,2-Dibromoethane	100.0	96.75	pptv	97	70-130
Tetrachloroethene	100.0	102.3	pptv	102	70-130
Chlorobenzene	100.0	100.5	pptv	101	70-130
Ethylbenzene	100.0	97.87	pptv	98	70-130
m,p-Xylenes	200.0	194.0	pptv	97	70-130
Bromoform	100.0	94.91	pptv	95	70-130
Styrene	100.0	115.8	pptv	116	70-130
o-Xylene	100.0	99.24	pptv	99	70-130
2-Chlorotoluene	100.0	99.33	pptv	99	70-130
1,3,5-Trimethylbenzene	100.0	127.0	pptv	127	70-130
1,2,4-Trimethylbenzene	100.0	110.5	pptv	110	70-130
Benzyl chloride	100.0	90.53	pptv	91	70-130
1,3-Dichlorobenzene	100.0	99.84	pptv	100	70-130
1,4-Dichlorobenzene	100.0	96.97	pptv	97	70-130
1,2-Dichlorobenzene	100.0	96.94	pptv	97	70-130
1,2,4-Trichlorobenzene	100.0	83.43	pptv	83	70-130
1,1,2,2-Tetrachloroethane	100.0	98.86	pptv	99	70-130
1,1,1,2-Tetrachloroethane	100.0	98.31	pptv	98	70-130
Naphthalene	100.0	77.14	pptv	77	70-130
Hexachlorobutadiene	100.0	88.25	pptv	88	70-130

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1213576 Surrogate	%REC	Limits
Bromofluorobenzene	104	70-130

Type: BSD **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1213577 **Batch#:** 358299 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/18/24 08:15 **Analyst:** OHD

QC1213577 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Freon 12	100.0	100.6	pptv	101	70-130	0	25
Chloromethane	100.0	102.8	pptv	103	70-130	1	25
Freon 114	100.0	101.3	pptv	101	70-130	1	25
Vinyl Chloride	100.0	101.8	pptv	102	70-130	1	25
Bromomethane	100.0	101.9	pptv	102	70-130	4	25
Chloroethane	100.0	98.93	pptv	99	70-130	0	25
Vinyl bromide	100.0	104.2	pptv	104	70-130	1	25
Trichlorofluoromethane	100.0	101.1	pptv	101	70-130	1	25
1,1-Dichloroethene	100.0	105.4	pptv	105	70-130	0	25
Methylene Chloride	100.0	100.4	pptv	100	70-130	2	25
Freon 113	100.0	101.7	pptv	102	70-130	1	25
trans-1,2-Dichloroethene	100.0	102.4	pptv	102	70-130	1	25
1,1-Dichloroethane	100.0	101.2	pptv	101	70-130	1	25
cis-1,2-Dichloroethene	100.0	102.0	pptv	102	70-130	0	25
Chloroform	100.0	101.3	pptv	101	70-130	1	25
1,2-Dichloroethane	100.0	100.2	pptv	100	70-130	1	25
1,1,1-Trichloroethane	100.0	100.2	pptv	100	70-130	1	25
Benzene	100.0	98.41	pptv	98	70-130	0	25
Carbon Tetrachloride	100.0	98.75	pptv	99	70-130	1	25
1,2-Dichloropropane	100.0	101.4	pptv	101	70-130	1	25
Bromodichloromethane	100.0	97.14	pptv	97	70-130	1	25
Trichloroethene	100.0	101.4	pptv	101	70-130	1	25
cis-1,3-Dichloropropene	100.0	100.8	pptv	101	70-130	1	25
trans-1,3-Dichloropropene	100.0	101.1	pptv	101	70-130	0	25
1,1,2-Trichloroethane	100.0	99.73	pptv	100	70-130	1	25
Toluene	100.0	88.98	pptv	89	70-130	1	25
Dibromochloromethane	100.0	95.56	pptv	96	70-130	0	25
1,2-Dibromoethane	100.0	97.91	pptv	98	70-130	1	25
Tetrachloroethene	100.0	103.9	pptv	104	70-130	2	25
Chlorobenzene	100.0	101.7	pptv	102	70-130	1	25
Ethylbenzene	100.0	98.57	pptv	99	70-130	1	25
m,p-Xylenes	200.0	194.6	pptv	97	70-130	0	25
Bromoform	100.0	95.85	pptv	96	70-130	1	25
Styrene	100.0	116.8	pptv	117	70-130	1	25
o-Xylene	100.0	98.85	pptv	99	70-130	0	25
2-Chlorotoluene	100.0	101.0	pptv	101	70-130	2	25
1,3,5-Trimethylbenzene	100.0	128.5	pptv	129	70-130	1	25
1,2,4-Trimethylbenzene	100.0	113.2	pptv	113	70-130	2	25
Benzyl chloride	100.0	92.68	pptv	93	70-130	2	25
1,3-Dichlorobenzene	100.0	101.8	pptv	102	70-130	2	25
1,4-Dichlorobenzene	100.0	98.99	pptv	99	70-130	2	25
1,2-Dichlorobenzene	100.0	98.17	pptv	98	70-130	1	25
1,2,4-Trichlorobenzene	100.0	86.20	pptv	86	70-130	3	25
1,1,2,2-Tetrachloroethane	100.0	100.2	pptv	100	70-130	1	25
1,1,1,2-Tetrachloroethane	100.0	98.81	pptv	99	70-130	1	25

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1213577 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Naphthalene	100.0	80.37	pptv	80	70-130	4	25
Hexachlorobutadiene	100.0	90.16	pptv	90	70-130	2	25

QC1213577 Surrogate	%REC	Limits
Bromofluorobenzene	104	70-130

Legend

RPD: Relative Percent Difference

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BLANK **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1213578 **Batch#:** 358299 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/18/24 09:45 **Analyst:** OHD

QC1213578 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	ND	10	pptv	ND	0.049	ug/m3
Chloromethane	ND	100	pptv	ND	0.21	ug/m3
Freon 114	ND	10	pptv	ND	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	ND	10	pptv	ND	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	ND	10	pptv	ND	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	ND	20	pptv	ND	0.069	ug/m3
Freon 113	ND	10	pptv	ND	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	ND	10	pptv	ND	0.049	ug/m3
1,2-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	ND	10	pptv	ND	0.032	ug/m3
Carbon Tetrachloride	ND	10	pptv	ND	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	ND	10	pptv	ND	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	ND	10	pptv	ND	0.043	ug/m3
m,p-Xylenes	ND	10	pptv	ND	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	ND	10	pptv	ND	0.043	ug/m3
o-Xylene	ND	10	pptv	ND	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
1,2,4-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	ND	10	pptv	ND	0.043	ug/m3

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1213578 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	90	70-130	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Equipment Certification Report for 518235

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

Client Sample ID	Lab Sample ID	Equipment Cert	Equipment ID	Type	Cleaning Batch
WB01-14D	518235-001	TO15 SIM Indv.	C70196	6L Canister	5884
WB02-14D	518235-002	TO15 SIM Indv.	C70903	6L Canister	5908
WB03-14D	518235-003	TO15 SIM Indv.	C70059	6L Canister	5854
WB04-14D	518235-004	TO15 SIM Indv.	C70932	6L Canister	5914
WB05-14D	518235-005	TO15 SIM Indv.	C70800	6L Canister	5890
WB06-14D	518235-006	TO15 SIM Indv.	C70916	6L Canister	5908
WB07-14D	518235-007	TO15 SIM Indv.	C70901	6L Canister	5908
WB08-14D	518235-008	TO15 SIM Indv.	C70914	6L Canister	5908
WB09-14D	518235-009	TO15 SIM Indv.	C70012	6L Canister	5890
WB10-14D	518235-010	TO15 SIM Indv.	C70331	6L Canister	5890
WB11-14D	518235-011	TO15 SIM Indv.	C70352	6L Canister	5883
WB12-14D	518235-012	TO15 SIM Indv.	C70908	6L Canister	5908
WB13-14D	518235-013	TO15 SIM Indv.	C70249	6L Canister	5890
WB14-14D	518235-014	TO15 SIM Indv.	C70309	6L Canister	5890
WB17-14D	518235-015	TO15 SIM Indv.	C70812	6L Canister	5883
WB18-14D	518235-016	TO15 SIM Indv.	C70938	6L Canister	5914
WB19-14D	518235-017	TO15 SIM Indv.	C70081	6L Canister	5890

Cleaning Batch	Check Run	Equipment ID	Type
5854	374364761015	C70059	6L Canister
5883	504376376016	C70812	6L Canister
5883	504376376021	C70352	6L Canister
5884	504376376019	C70196	6L Canister
5890	504377891012	C70249	6L Canister
5890	504377891019	C70331	6L Canister
5890	504377891020	C70012	6L Canister
5890	504377891023	C70800	6L Canister
5890	504377891024	C70081	6L Canister
5890	504377891028	C70309	6L Canister
5908	504384909010	C70901	6L Canister
5908	504384909016	C70903	6L Canister
5908	504384909017	C70914	6L Canister
5908	504384909019	C70916	6L Canister
5908	504386383008	C70908	6L Canister
5914	504384909015	C70932	6L Canister
5914	504384909018	C70938	6L Canister

Cleaning Batch	Started	Completed	Pressure	Status
5854	09/06/24 12:41	09/09/24 06:27	<0.05 mmHg	Successful
5883	09/13/24 14:35	09/14/24 08:29	<0.05 mmHg	Successful
5884	09/14/24 09:14	09/16/24 06:17	<0.05 mmHg	Successful
5890	09/16/24 14:14	09/17/24 05:07	<0.05 mmHg	Successful
5908	09/19/24 16:35	09/20/24 05:02	<0.05 mmHg	Successful

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Cleaning Batch	Started	Completed	Pressure	Status
5914	09/21/24 12:43	09/22/24 09:04	<0.05 mmHg	Successful

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Check Run:	504377891024	Analysis Date/Time:	19-SEP-2024 04:05:00	Equipment ID:	C70081

C70081 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Check Run:	504384909017	Analysis Date/Time:	23-SEP-2024 19:31:00	Equipment ID:	C70914

C70914 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Check Run:	504377891012	Analysis Date/Time:	18-SEP-2024 18:35:00	Equipment ID:	C70249

C70249 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909010	Analysis Date/Time:	23-SEP-2024 13:58:00	Equipment ID:	C70901

C70901 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891020	Analysis Date/Time:	19-SEP-2024 00:55:00	Equipment ID:	C70012

C70012 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909019	Analysis Date/Time:	23-SEP-2024 21:06:00	Equipment ID:	C70916

C70916 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504386383008	Analysis Date/Time:	24-SEP-2024 12:53:00	Equipment ID:	C70908

C70908 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504376376021	Analysis Date/Time:	18-SEP-2024 02:07:00	Equipment ID:	C70352

C70352 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909018	Analysis Date/Time:	23-SEP-2024 20:18:00	Equipment ID:	C70938

C70938 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909016	Analysis Date/Time:	23-SEP-2024 18:43:00	Equipment ID:	C70903

C70903 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504376376016	Analysis Date/Time:	17-SEP-2024 22:10:00	Equipment ID:	C70812

C70812 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891023	Analysis Date/Time:	19-SEP-2024 03:17:00	Equipment ID:	C70800

C70800 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891019	Analysis Date/Time:	19-SEP-2024 00:07:00	Equipment ID:	C70331

C70331 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504376376019	Analysis Date/Time:	18-SEP-2024 00:32:00	Equipment ID:	C70196

C70196 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	374364761015	Analysis Date/Time:	09-SEP-2024 18:04:00	Equipment ID:	C70059

C70059 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909015	Analysis Date/Time:	23-SEP-2024 17:55:00	Equipment ID:	C70932

C70932 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891028	Analysis Date/Time:	19-SEP-2024 07:16:00	Equipment ID:	C70309

C70309 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

Appendix F

Laboratory Analytical Reports – 24 Hour Ssamples

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG15.D
Acq On : 31 Aug 2024 5:15 am
Operator : BEP
Sample : BLK-626 241670-01
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 03 09:56:48 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

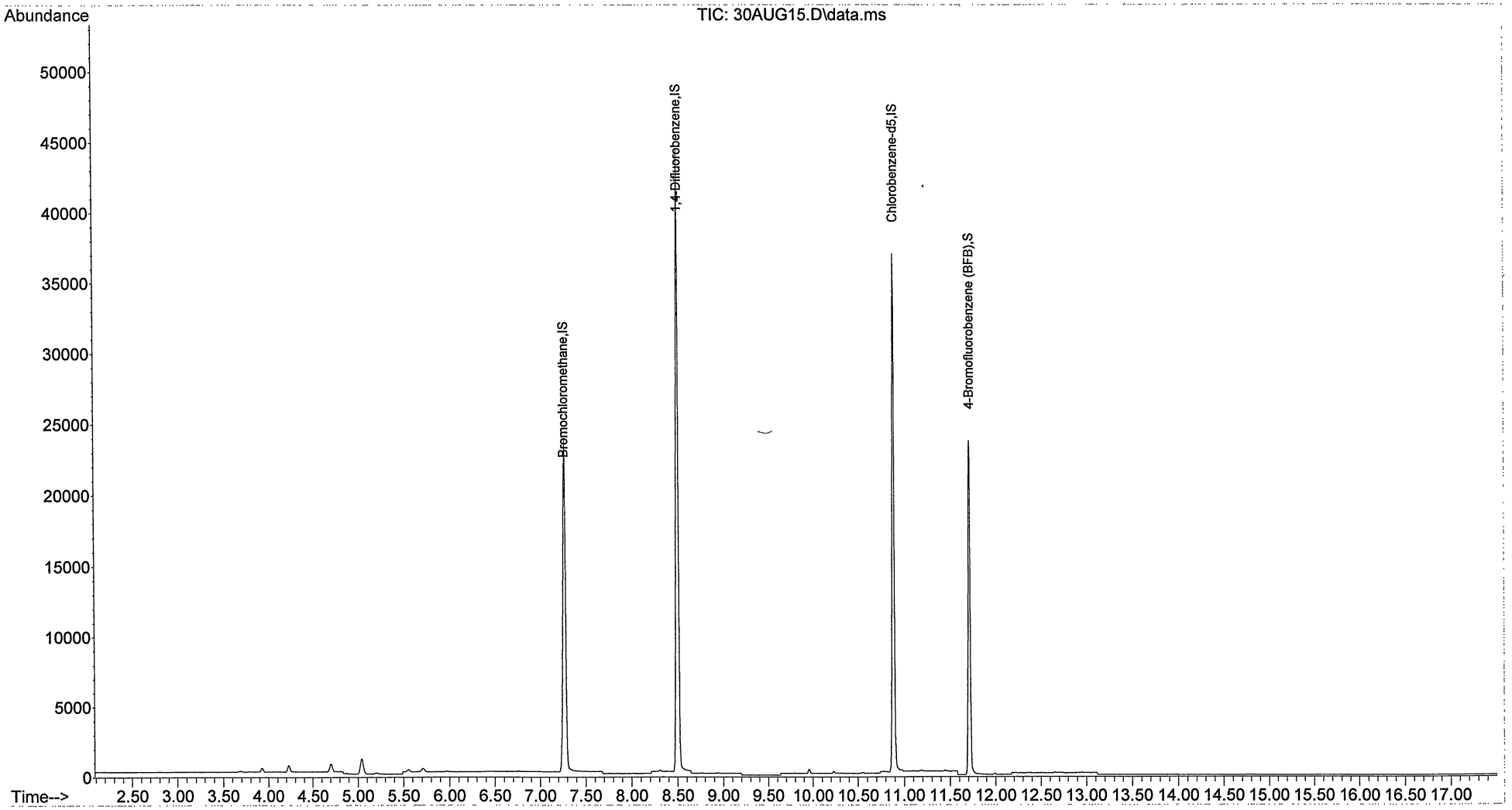
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	22673	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	48789	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	30168	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.711	95	16015	443.06	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 88.61%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG15.D
Acq On : 31 Aug 2024 5:15 am
Operator : BEP
Sample : BLK-626
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 03 09:56:48 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP16.D
Acq On : 12 Sep 2024 4:08 am
Operator : BEP
Sample : blk-813 241647O-02
Misc : *
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 12 08:47:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

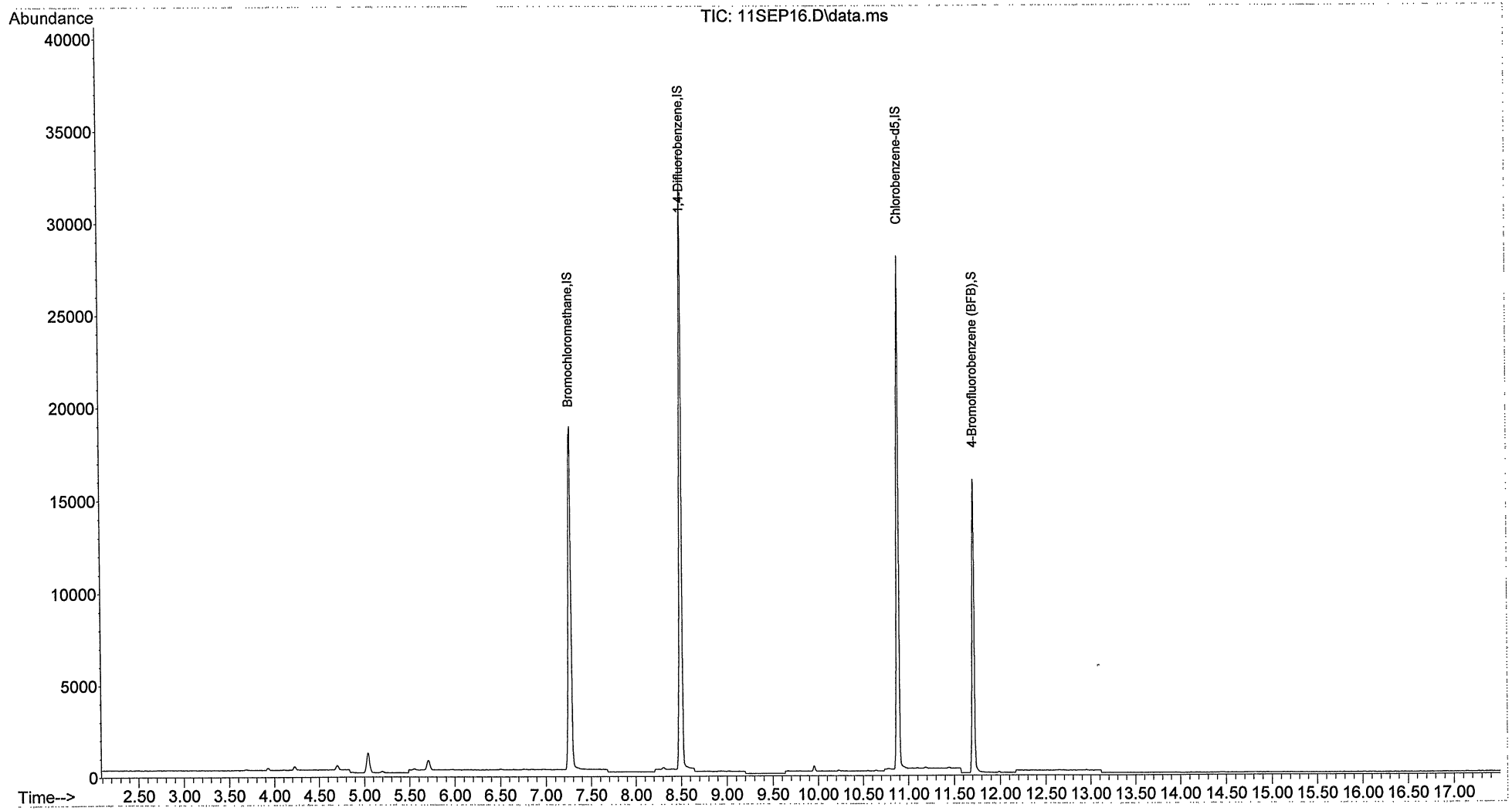
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18517	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	36448	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	22027	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10712	424.31	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 84.86%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP16.D
Acq On : 12 Sep 2024 4:08 am
Operator : BEP
Sample : blk-813
Misc : *
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 12 08:47:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP08.D
Acq On : 11 Sep 2024 11:18 pm
Operator : BEP
Sample : blk-794 2416470-03
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:36:31 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

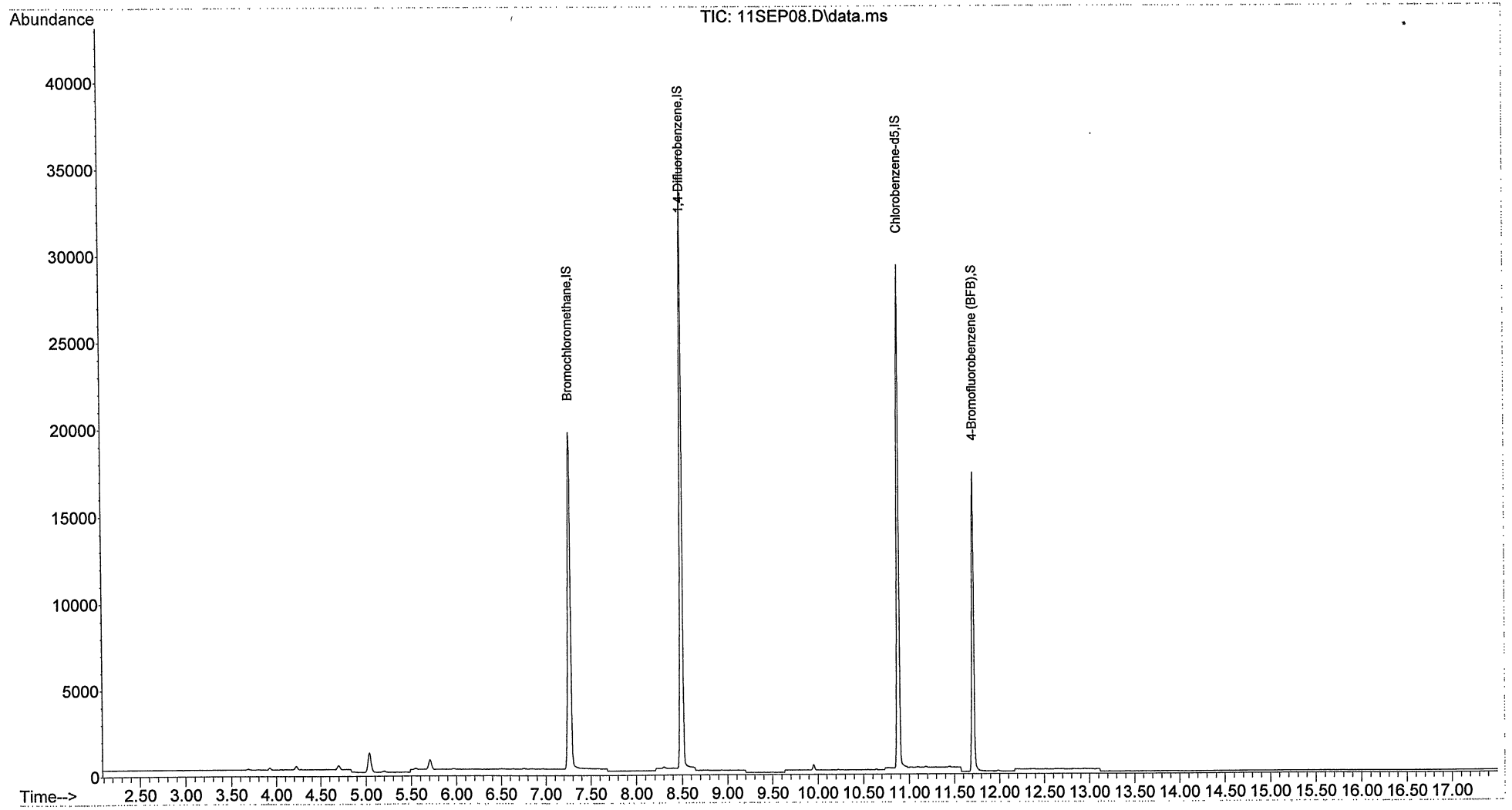
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	19100	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	38859	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	23234	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	11559	434.07	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 86.81%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP08.D
Acq On : 11 Sep 2024 11:18 pm
Operator : BEP
Sample : blk-794
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:36:31 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP07.D
Acq On : 11 Sep 2024 10:41 pm
Operator : BEP
Sample : blk-37493 241670-04
Misc : 13-919
ALS Vial : 3 Sample Multiplier: 1

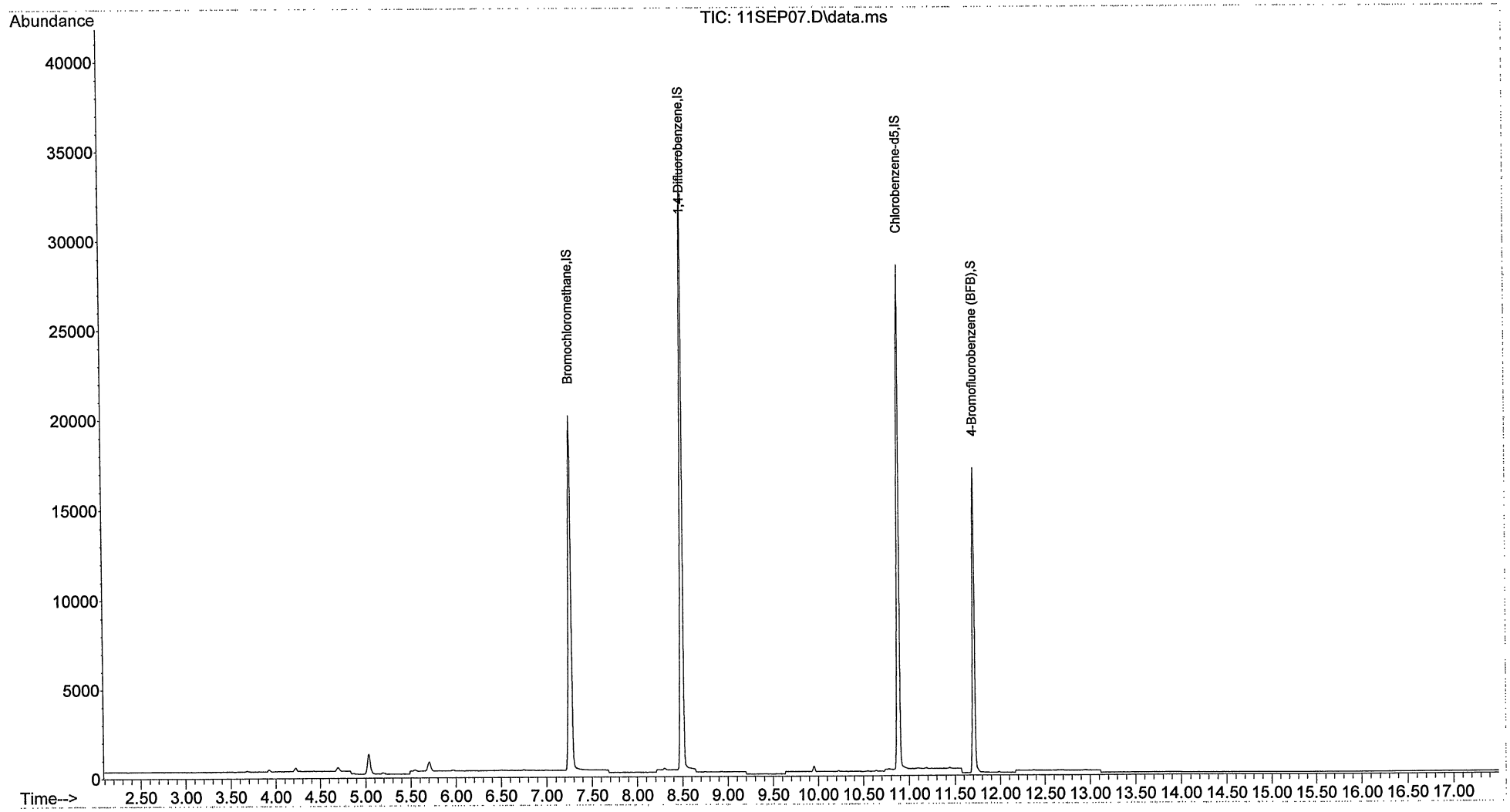
Quant Time: Sep 12 09:36:02 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.260	49	18967	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	38791	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	23172	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	11368	428.04	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 85.61%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP07.D
Acq On : 11 Sep 2024 10:41 pm
Operator : BEP
Sample : blk-37493
Misc : 13-919
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:36:02 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP18.D
Acq On : 12 Sep 2024 5:21 am
Operator : BEP
Sample : blk-c8346 241670-05
Misc : *
ALS Vial : 14 Sample Multiplier: 1

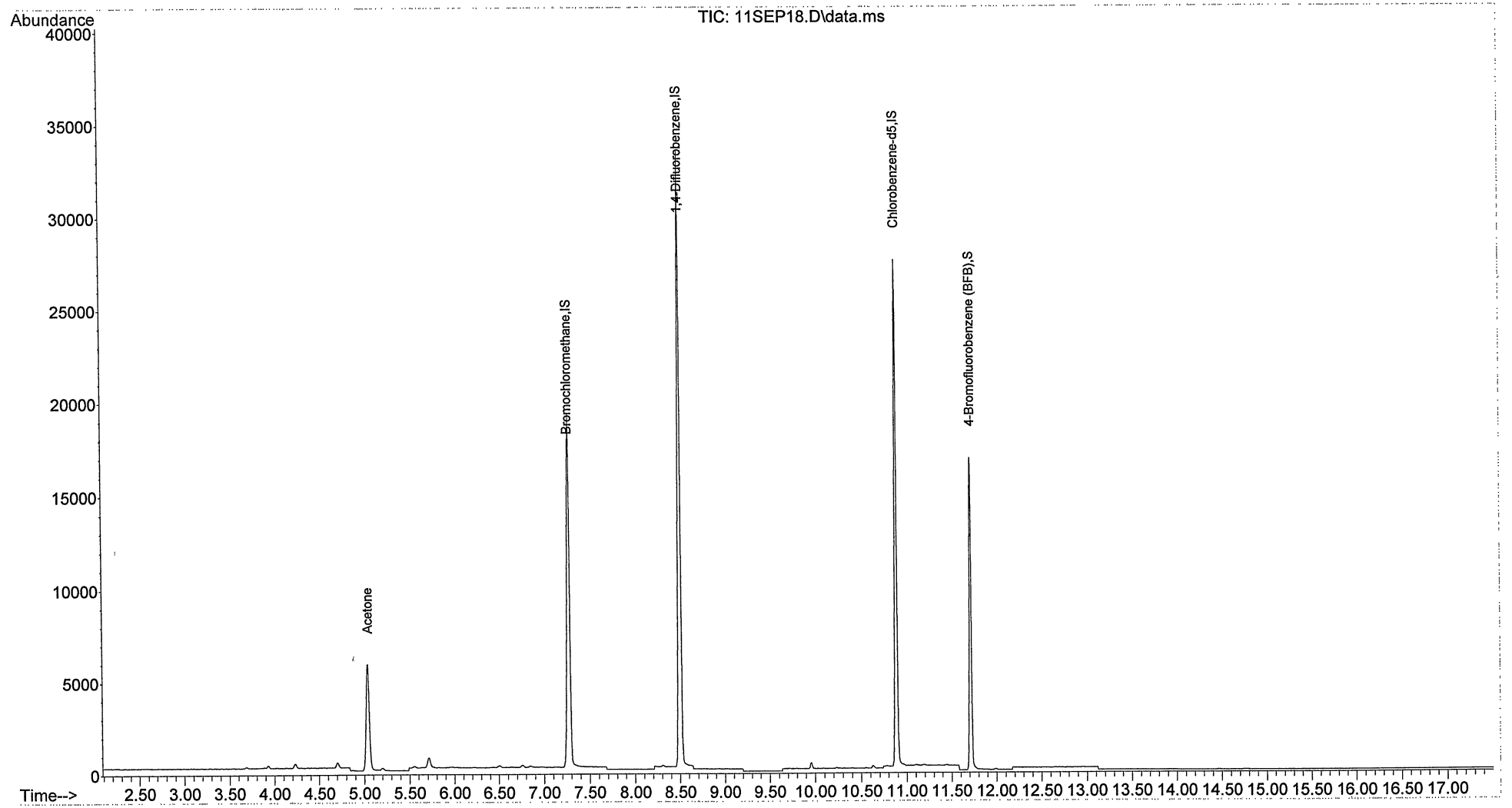
Quant Time: Sep 12 09:49:13 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18330	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	36954	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	22687	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.711	95	11295	434.39	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 86.88%			
Target Compounds						Qvalue
6) Acetone	5.041	58	3173	163.8983	pptv	# 64

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP18.D
Acq On : 12 Sep 2024 5:21 am
Operator : BEP
Sample : blk-c8346
Misc : *
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 12 09:49:13 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP14.D BGV 11/04/24
Acq On : 12 Sep 2024 2:56 am
Operator : BEP
Sample : blk-747 24I7 2416470-06
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 08:46:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

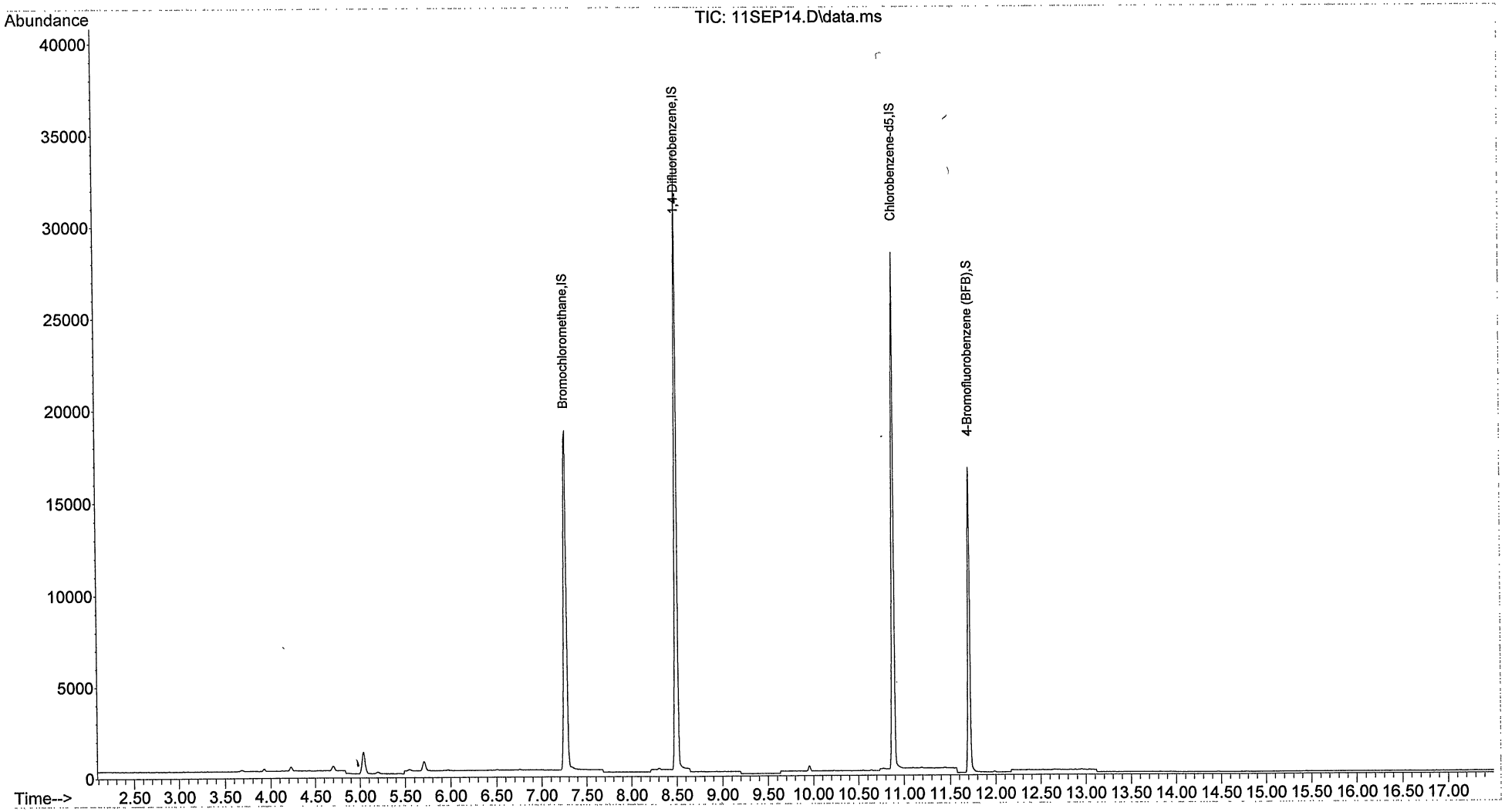
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18347	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	36699	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	22358	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	11236	438.48	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 87.70%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP14.D
Acq On : 12 Sep 2024 2:56 am
Operator : BEP
Sample : blk-747
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 08:46:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL09\
Data File : 09JUL12.D
Acq On : 9 Jul 2024 9:09 pm
Operator : BEP
Sample : blk-616 2416470-07
Misc : 13-825
ALS Vial : 7 Sample Multiplier: 1

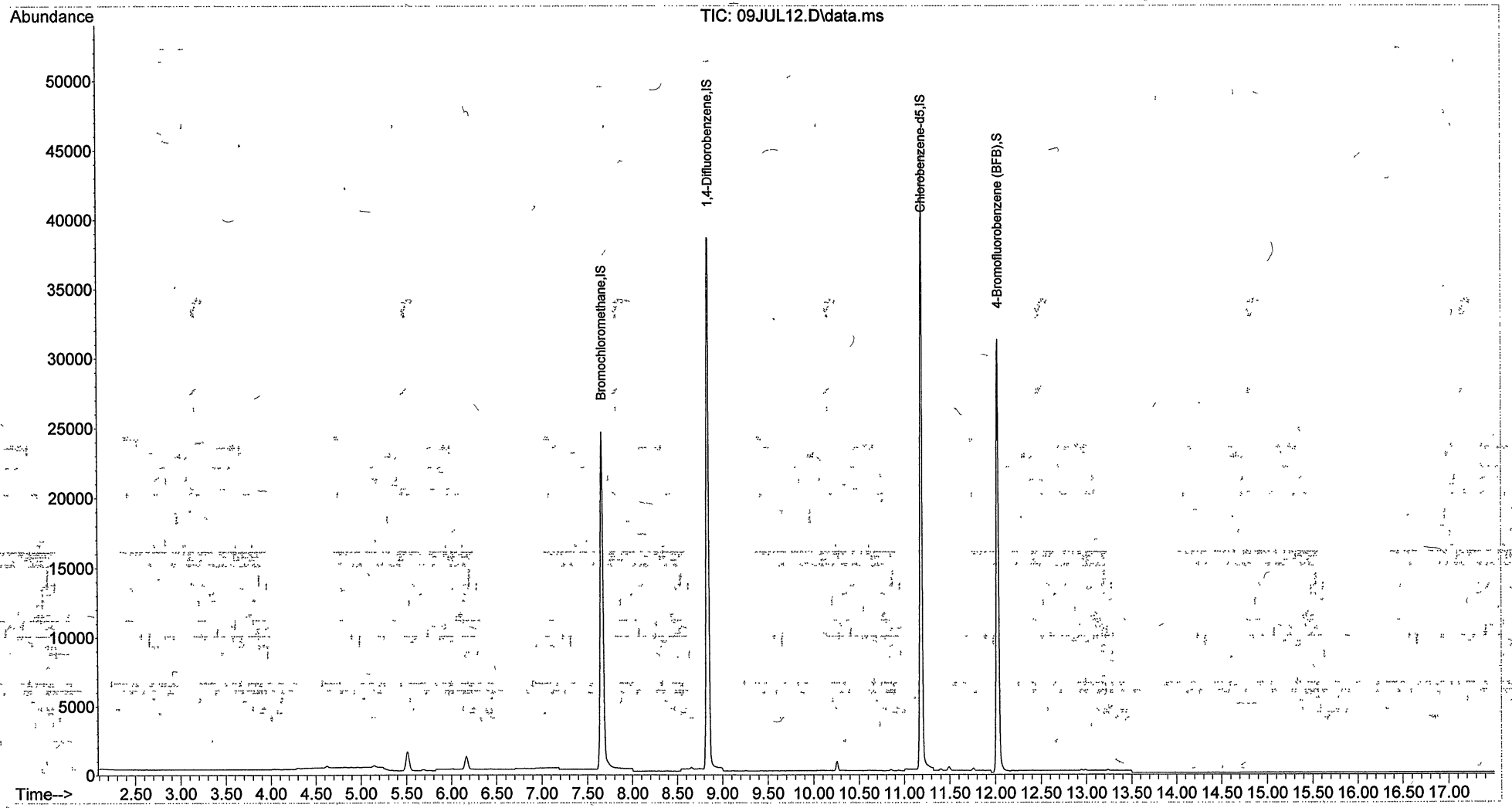
Quant Time: Jul 10 13:46:08 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	21792	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.843	114	48485	500.00	pptv	0.00
28) Chlorobenzene-d5	11.188	117	39323	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	22550	481.58	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 96.32%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL09\
Data File : 09JUL12.D
Acq On : 9 Jul 2024 9:09 pm
Operator : BEP
Sample : blk-616
Misc : 13-825
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 10 13:46:08 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP06.D
Acq On : 11 Sep 2024 10:06 pm
Operator : BEP
Sample : blk-35416 241670-08
Misc : 13-918
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:35:40 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

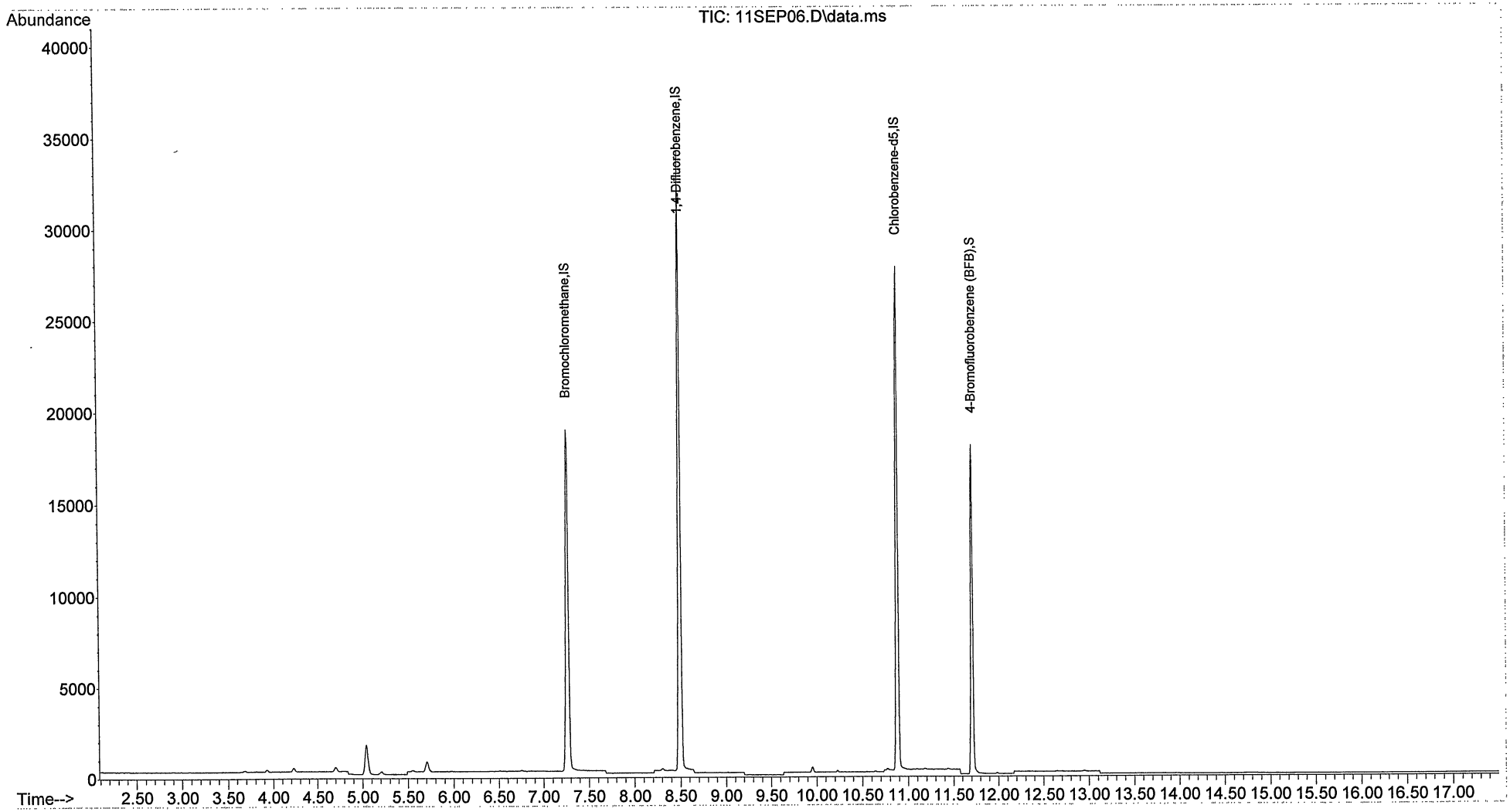
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.260	49	18249	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	37543	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	22820	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	12057	460.99	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 92.20%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP06.D
Acq On : 11 Sep 2024 10:06 pm
Operator : BEP
Sample : blk-35416
Misc : 13-918
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:35:40 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG11.D
Acq On : 6 Aug 2024 8:53 pm
Operator : BEP
Sample : blk-762 2416470-09
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 22:57:08 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

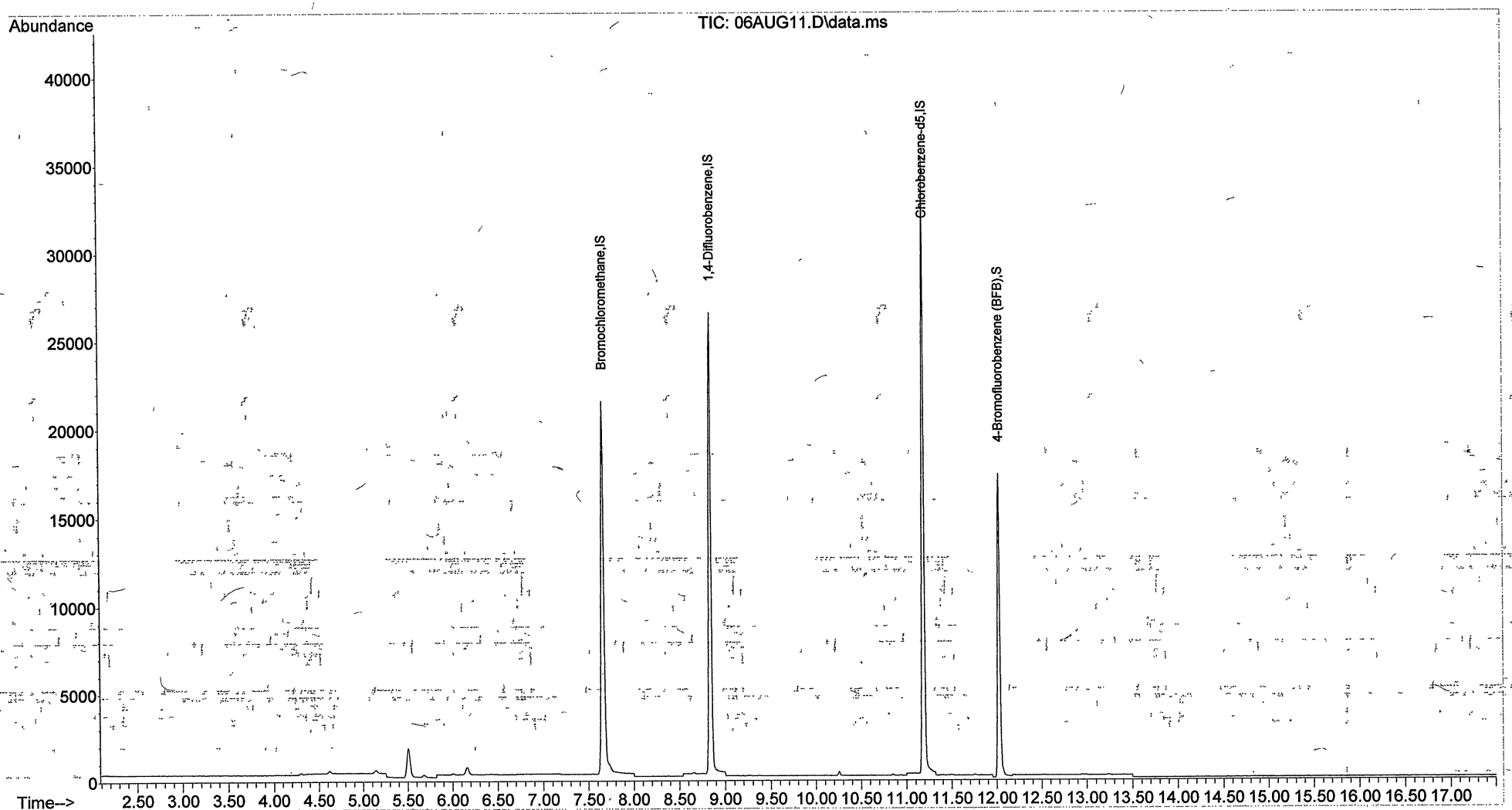
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15836	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	32095	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29685	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12149	369.05	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 73.81%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG11.D
Acq On : 6 Aug 2024 8:53 pm
Operator : BEP
Sample : blk-762
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 22:57:08 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP17.D
Acq On : 12 Sep 2024 4:44 am
Operator : BEP
Sample : blk-0169 241647D-1D
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 12 09:48:36 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

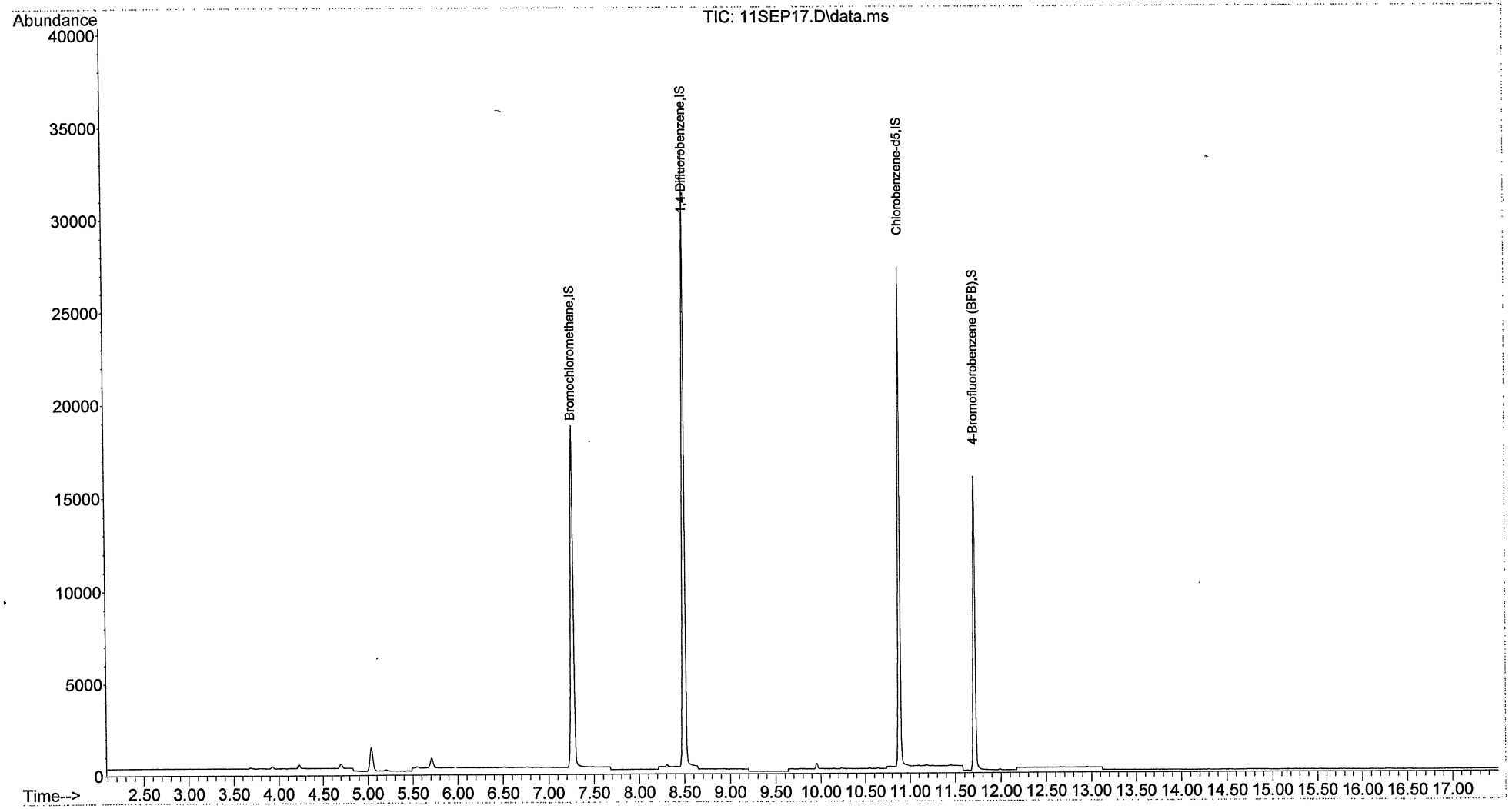
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18011	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	35717	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	21862	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10719	427.79	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 85.56%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP17.D
Acq On : 12 Sep 2024 4:44 am
Operator : BEP
Sample : blk-0169
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 12 09:48:36 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG34.D
Acq On : 2 Aug 2024 2:40 pm 11/04/24
Operator : BEP BEP
Sample : BLK-684 ~~24640~~ 2416470-11
Misc : *
ALS Vial : 10 Sample Multiplier: 1

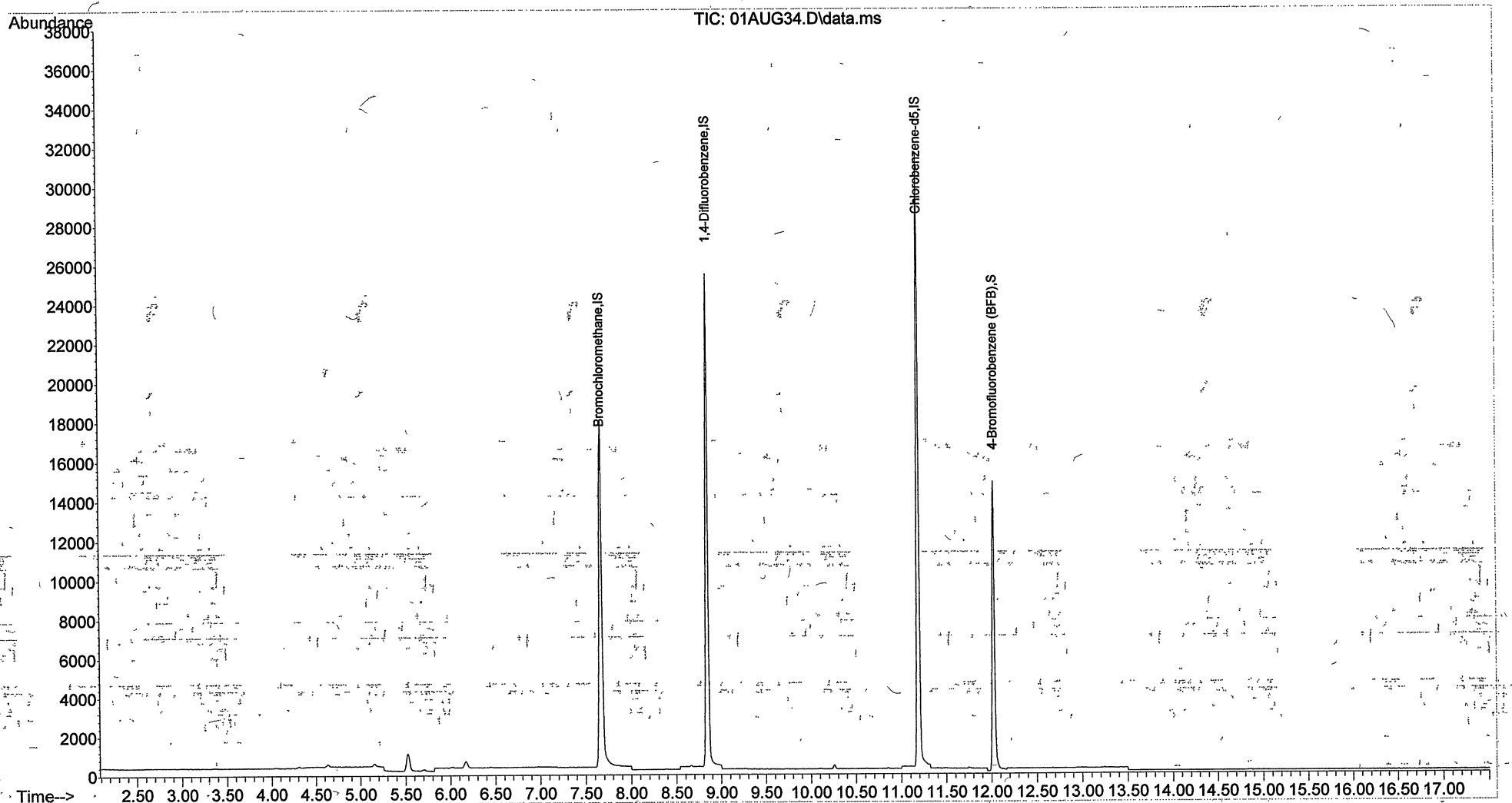
Quant Time: Aug 02 15:00:52 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	13527	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	28914	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	27068	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	10382	345.87	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 69.17%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG34.D
Acq On : 2 Aug 2024 2:40 pm
Operator : BEP
Sample : BLK-684
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 02 15:00:52 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG20.D
Acq On : 8 Aug 2024 8:29 pm
Operator : BEP
Sample : BLK-27754 2416470 - 12
Misc : 13-874
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 15 15:15:02 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

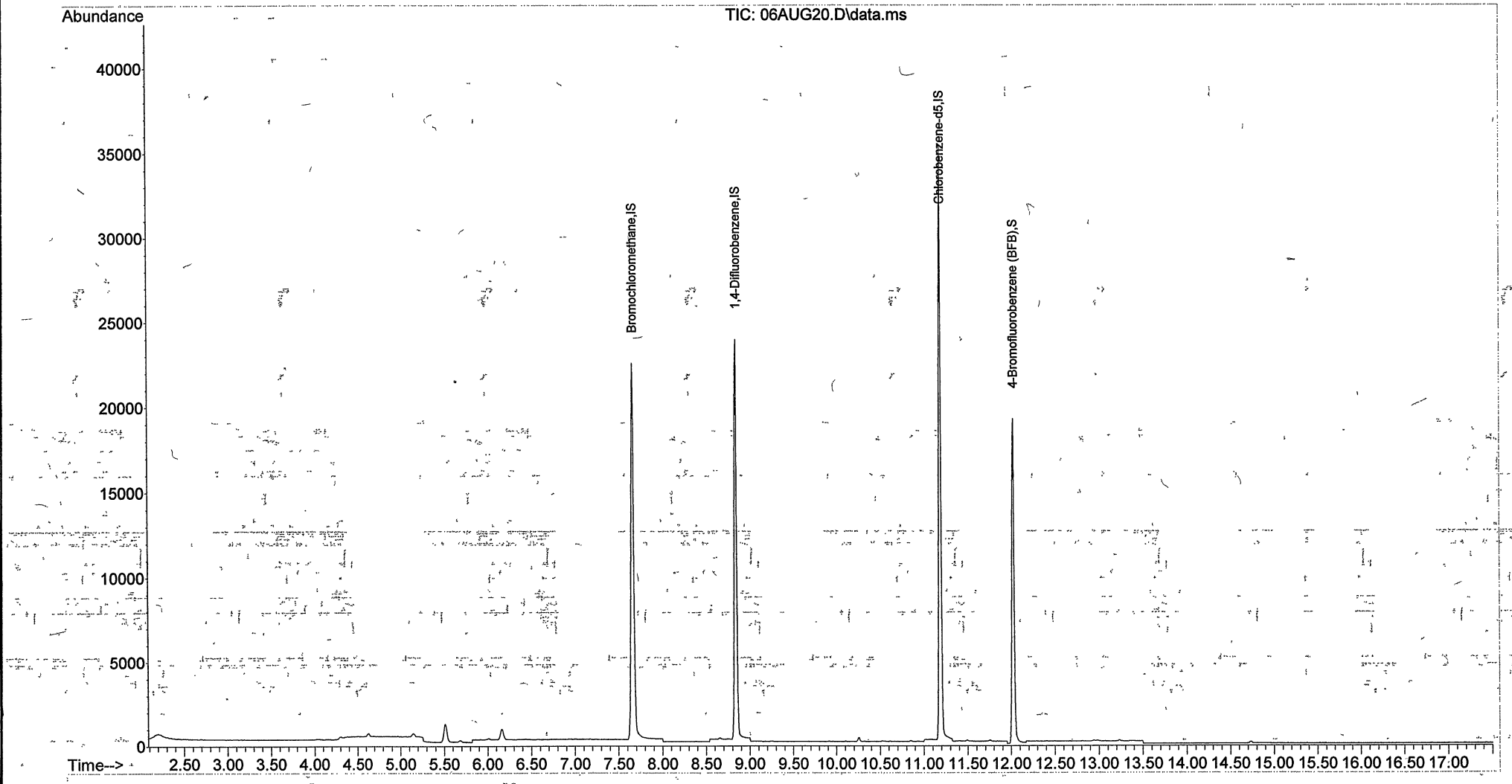
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	16494	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	29077	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29355	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	13169	404.53	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 80.91%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG20.D
Acq On : 8 Aug 2024 8:29 pm
Operator : BEP
Sample : BLK-27754
Misc : 13-874
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 15 15:15:02 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG10.D
Acq On : 6 Aug 2024 8:07 pm
Operator : BEP
Sample : blk-681 241647D-13
Misc : *
ALS Vial : 6 Sample Multiplier: 1

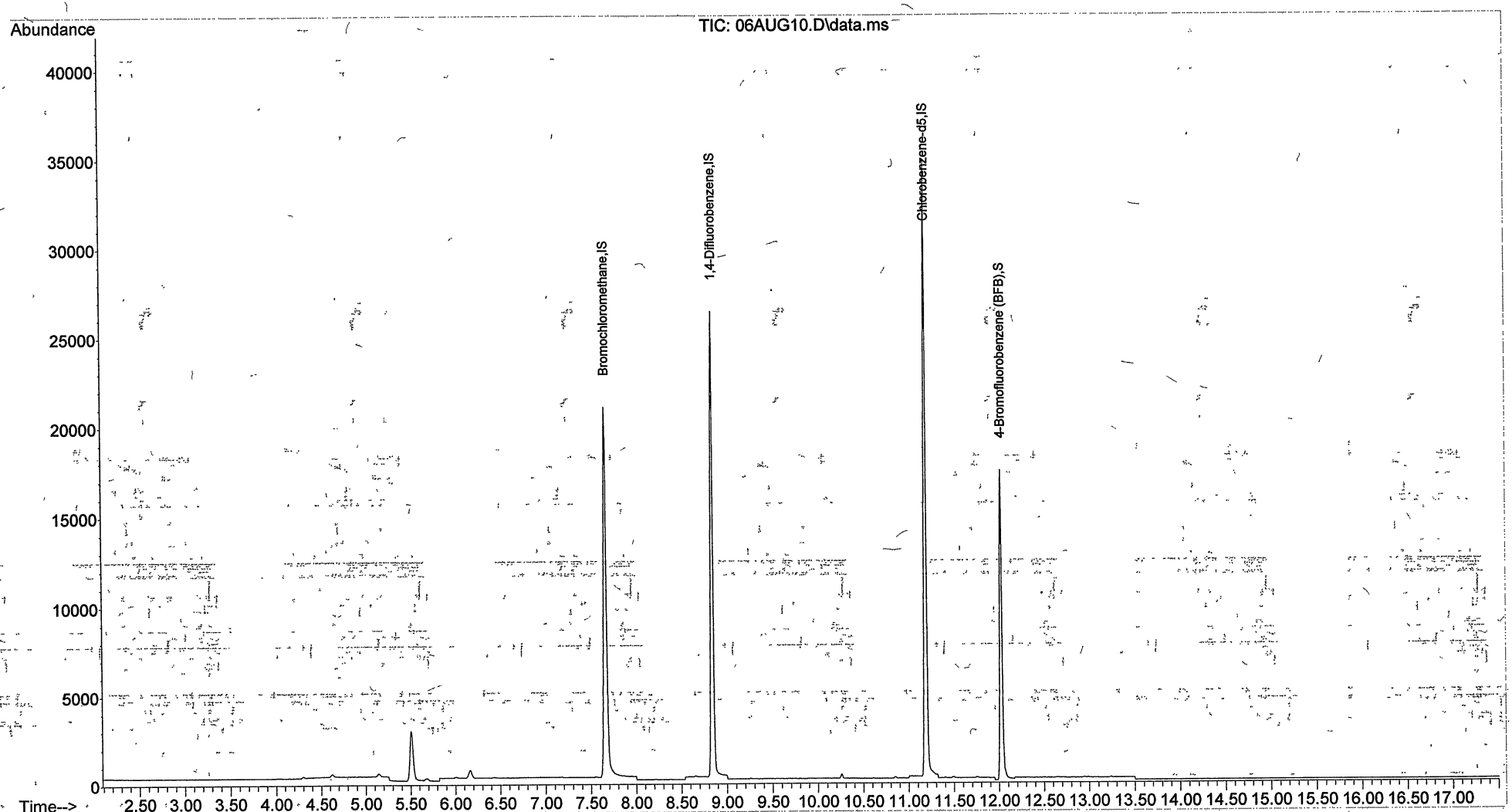
Quant Time: Aug 06 20:54:21 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15588	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	31158	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29454	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12144	371.79	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 74.36%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG10.D
Acq On : 6 Aug 2024 8:07 pm
Operator : BEP
Sample : blk-681
Misc : *
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 20:54:21 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL19.D
Acq On : 3 Jul 2024 6:35 am
Operator : BEP
Sample : blk-484 2416470-14
Misc : *
ALS Vial : 14 Sample Multiplier: 1

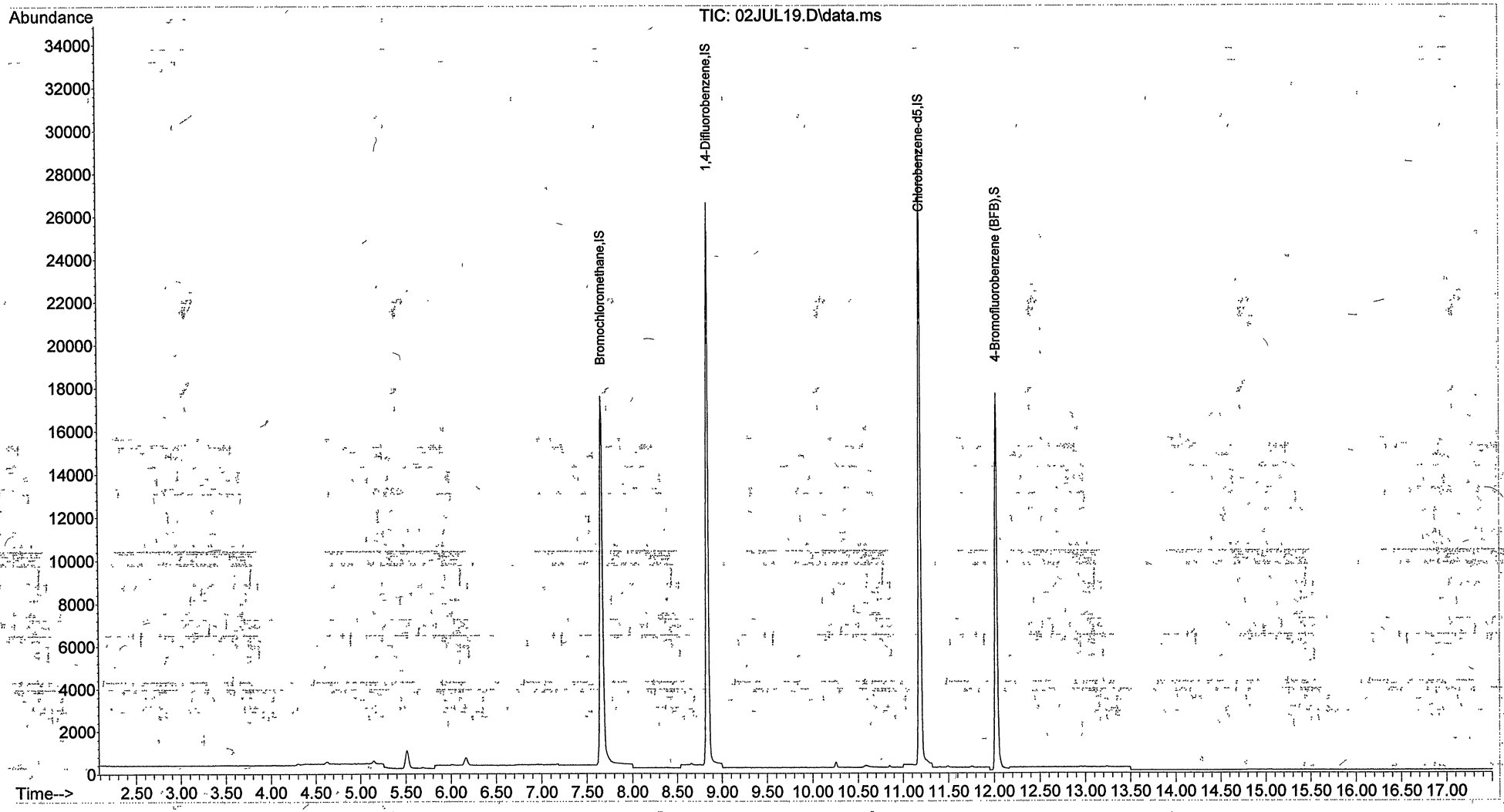
Quant Time: Jul 03 14:34:20 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15571	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.842	114	30837	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	25519	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12287	404.34	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 80.87%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL19.D
Acq On : 3 Jul 2024 6:35 am
Operator : BEP
Sample : blk-484
Misc : *
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 03 14:34:20 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG06.D
Acq On : 6 Aug 2024 5:00 pm
Operator : BEP
Sample : blk-685 2416470-15
Misc : 13-
ALS Vial : 2 Sample Multiplier: 1

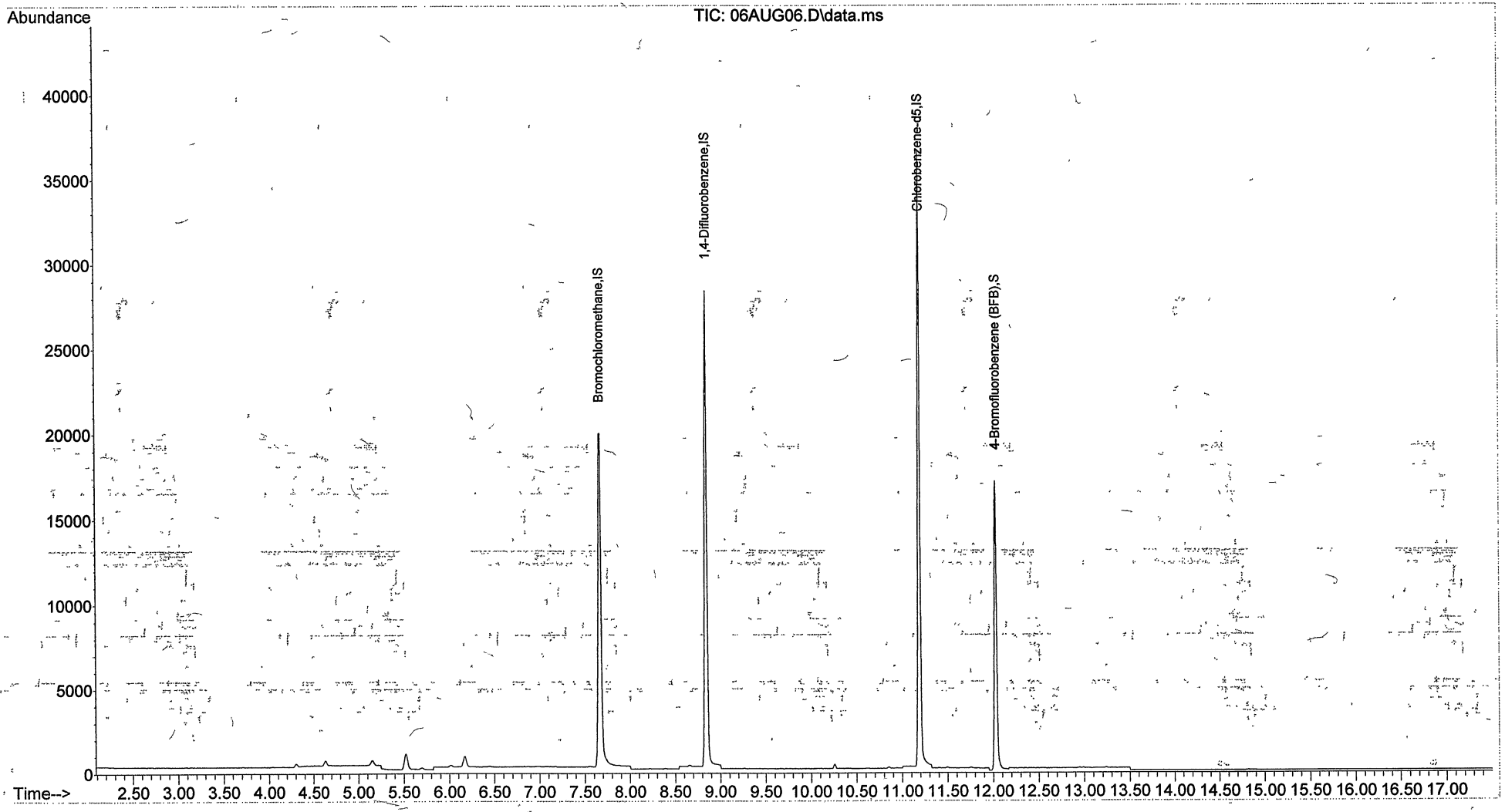
Quant Time: Aug 06 16:21:33 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	15632	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.843	114	32738	500.00	pptv	0.00
28) Chlorobenzene-d5	11.187	117	30721	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	12029	353.08	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 70.62%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG06.D
Acq On : 6 Aug 2024 5:00 pm
Operator : BEP
Sample : blk-685
Misc : 13-
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 06 16:21:33 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG07.D
Acq On : 6 Aug 2024 5:49 pm
Operator : BEP
Sample : blk-27756 24164710-16
Misc : 13-
ALS Vial : 3 Sample Multiplier: 1

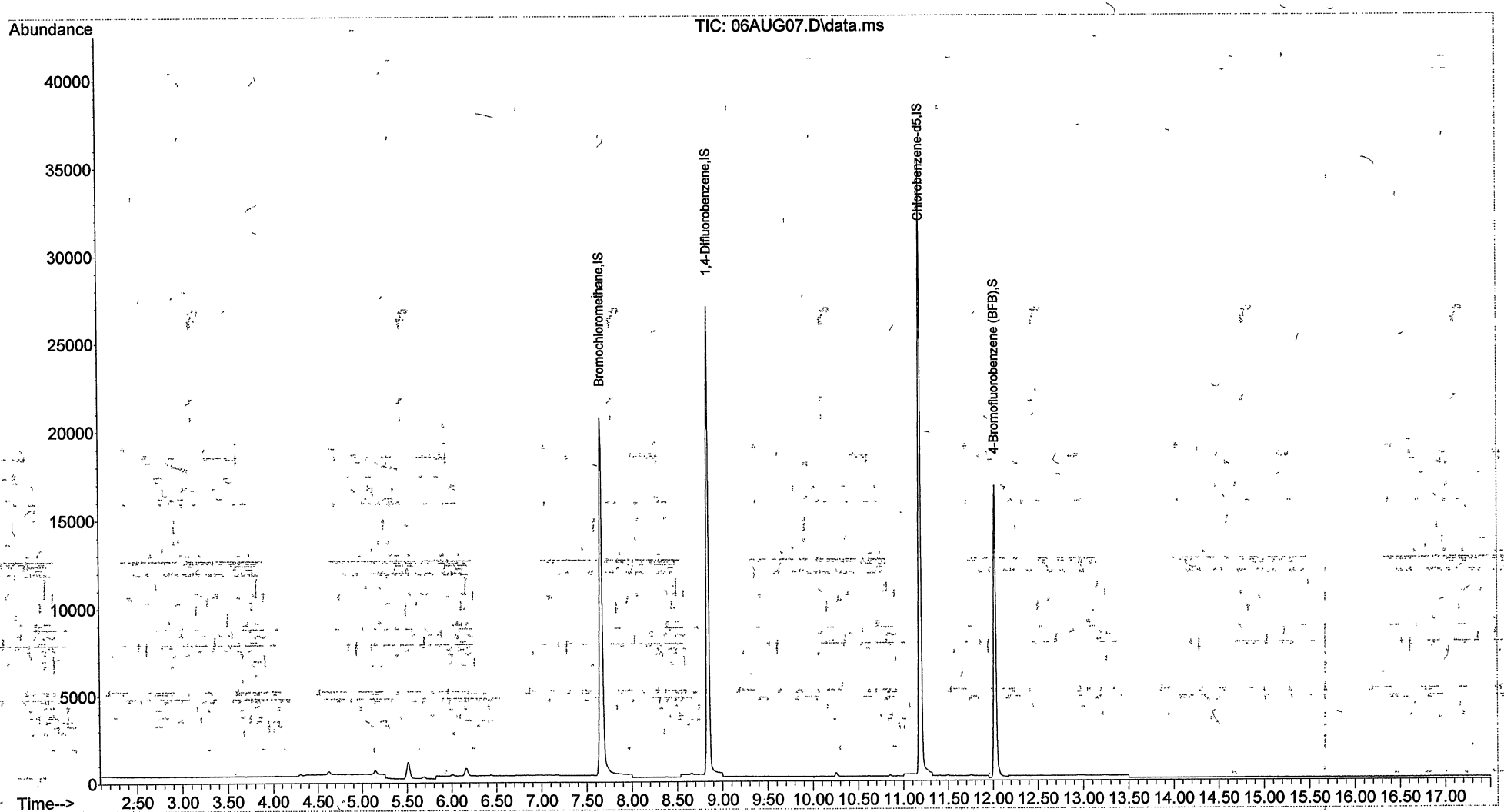
Quant Time: Aug 06 18:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15667	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	31337	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29753	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11851	359.18	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 71.84%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG07.D
Acq On : 6 Aug 2024 5:49 pm
Operator : BEP
Sample : blk-27756
Misc : 13-
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 06 18:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG39.D
Acq On : 2 Aug 2024 6:32 pm
Operator : BEP
Sample : BLK-819 Z416470-17
Misc : *
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 02 19:00:59 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

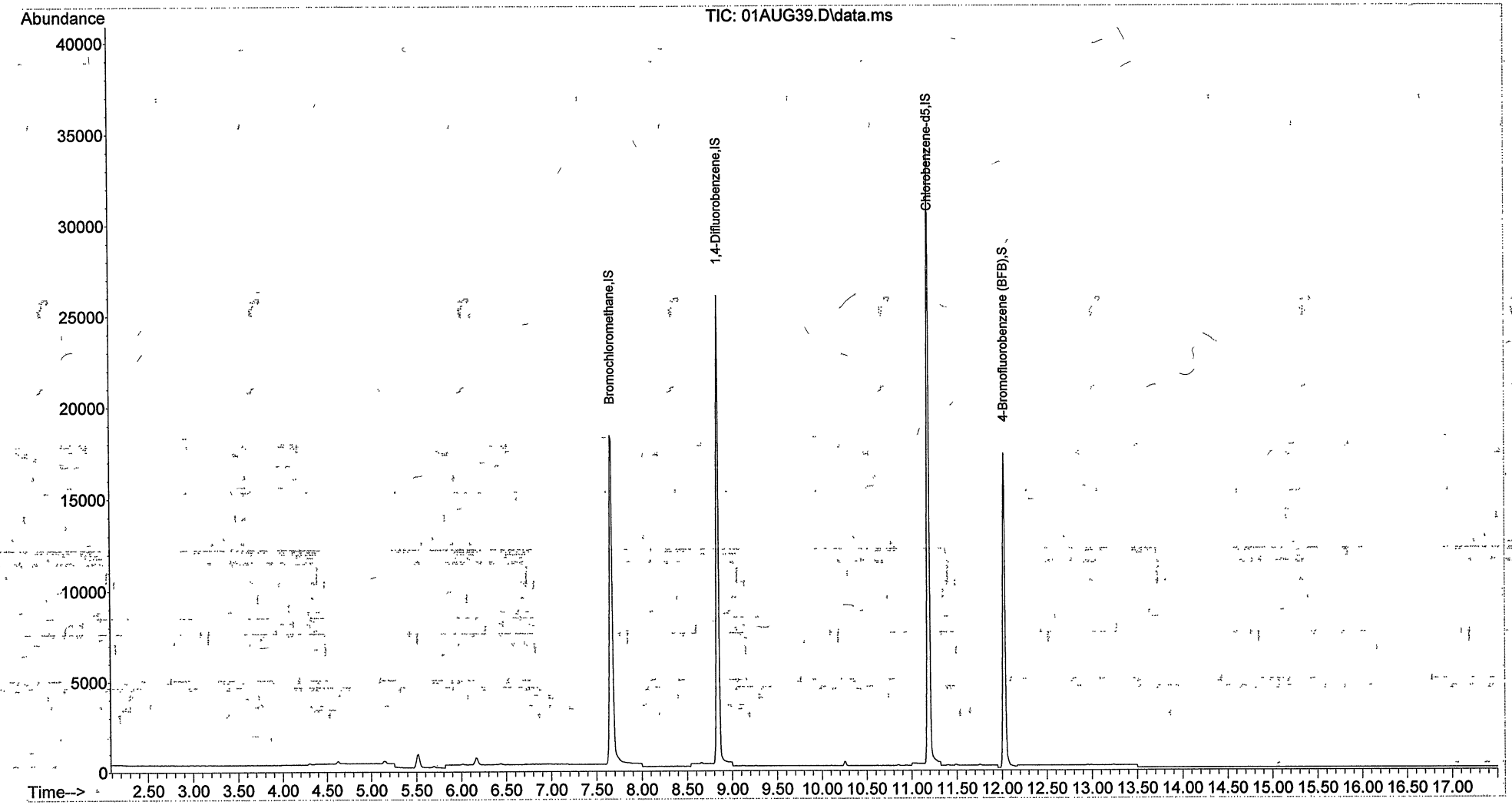
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	14119	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	29808	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	28750	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11964	375.25	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 75.05%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG39.D
Acq On : 2 Aug 2024 6:32 pm
Operator : BEP
Sample : BLK-819
Misc : *
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 02 19:00:59 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



Pace Analytical®
ENVIRONMENTAL SCIENCES

Date of Report: 11/11/2024

Yola Byram

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Client Project:	Walnut Bluff Work Plan
Pace Project:	Walnut Bluff
Pace Work Order:	2416470
Invoice ID:	B506047, B507754

Enclosed are the results of analyses for samples received by the laboratory on 10/ 11/2024. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supersedes Report ID 1001547513

Sincerely,

Contact Person: Brianna Schutte
Client Services Rep

Steve Bennett
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

Table of Contents

Pace Analytical® ENVIRONMENTAL SCIENCES

Pace Analytical® BAKERSFIELD

Air Chain of Custody Form

2416470

Page 1 of 2

Report To		Project #:	
Client:	Catalyst Environmental Solutions	Project Name:	Walnut Bluff Work Plan
Attn:	Yola Bayram	Sampler(s): (Print)	Elizabeth Huang
Street Address:	315 Montana Ave. Suite 311		
City, State, Zip:	Santa Monica, CA 90403		
Phone:	(310) 204-8477 Fax:		
Email:	ybayram@ceasolutions		
Work Order #:	24-1647O		

Analysis Requested: TO-15 SIM

Air Type: Soil Vapor (SV) / Ambient (A)

Comm

Sample #	Sample ID	Field ID / Point Of Collection	Date Sampled	Time Sampled	Air Type	Sampling Equipment: Initial Pressure ("Hg)	Sampling Equipment: Canister ID #	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Time	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Time	Stop Sampling Information: Canister Pressure ("Hg)	Lab Received Pressure (psia)	CLP Level: Yes / No (If "Yes", Select one) III / IV	UNITS (select one): ppbv / µg/m3	Notes
-1		WB01-24H	10/10/24	1148	A	30	0626	6024fc	1233	30	1148	1				
-2		WB02-24H	10/10/24	1238	A	30	813	20459	1236	30	1238	2				
-3		WB03-24H	10/10/24	1242	A	30	0794	13897	1238	30	1242	2				
-4		WB04-24H	10/10/24	1244	A	30	37493	6026fc	1242	30	1244	3				
-5		WB05-24H	10/10/24	1246	A	29	C8346	18716	1246	29	1246	3				
-6		WB06-24H	10/10/24	1305	A	30	0747	6027fc	1304	30	1305	3				
-7		WB07-24H	10/10/24	1308	A	30	0616	10001	1306	30	1308	2				
-8		WB08-24H	10/10/24	1311	A	30	35416	6030fc	1312	30	1311	2				
-9		WB09-24H	10/10/24	1220	A	30	0762	6022fc	1317	30	1220	2				
-10		WB10-24H	10/10/24	1344	A	30	6161	18714	1407	30	1344	2				
-11		WB11-24H	10/10/24	1413	A	30	0684	10012	1410	30	1413	3				
-12		WB12-24H	10/10/24	1230	A	30	27754	5982	1414	30	1230	2				
-13		WB13-24H	10/10/24	1350	A	30	0681	6031	1416	30	1350	1				
-14		WB14-24H	10/10/24	1355	A	30	0484	6025fc	1419	30	1355	2				

Billing ☑ Same as above

Client:

Street Address:

City: State: Zip:

Attn: Fax:

P.O.#:

Result Request **Surcharge: ☑ STD (10 Days) ☐ 5 Day** ☐ 4 Day** ☐ 3 Day** ☐ 2 Day** ☐ 1 Day**

	Relinquished By	Date	Time	Received By	Date	Time
1.	Elizabeth Huang	10/10/24	1545	AJ 3:45pm	10/10/24	1545
2.		10/11/24	1300	Gabe Bloemly	10-11-24	1300
3.	Gabe Bloemly	10-11-24	1450	Water Bottle	10-11-24	1450

10.11.24 1700

4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.pacelabs.com

2 of 2

Pace® Location Requested (City/State):

Air CHAIN-OF-CUSTODY Analytical Request Document
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR code for instructions

Company Name: Catalyst Environmental Solutions
Street Address: 815 Montana Ave, Suite 311
City, State Zip: Santa Monica, CA, 90403
Customer Project #:
Project Name: Walnut Bluff Work Plan
Site Collection Info/Facility ID (as applicable):
Time Zone Collected: [ ]AK [X]PT [ ]MT [ ]CT [ ]ET

Contact/Report To: Yola Bayram
Phone #: 213-204-8477
E-Mail: ybayram@ce.solutions
Cc E-Mail:
Invoice to: Susan McMahon
Invoice E-Mail: smcmahon@ce solutions
Purchase Order # (if applicable):
Quote #:
State origin of sample(s):

Data Deliverables: [ ] Level II [X] Level III [ ] Level IV [ ] EQUIS [ ] Other
Regulatory Program (CAA, RCRA, etc.) as applicable:
Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2Day [ ] 3 Day Other
Date Results Requested:
Permit # as applicable:
Units for Reporting: (ug/m³) PPBV mg/m³ PPMV

Field Information

Analyses Requested: TO-15 LL

Lab Use Only: Proj. Manager; AcctNum / Client ID:; Table #:; Profile / Template:; Prelog / Bottle Ord. ID:

* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection Date	Begin Collection Time	End Collection Date	End Collection Time	Canister Pressure / Vacuum: Start Pressure / Vacuum (in Hg)	Canister Pressure / Vacuum: End Pressure / Vacuum (in Hg)	PUF / FILTER: Duration (minutes)	PUF / FILTER: Flow Rate m³/min or L/min	PUF / FILTER: Total Volume Sampled m³ or L	Sample Comment
WB17-24H -15	A	01685	20197	10/9/24	1447	10/10/24	1431	31	2				X
WB18-24H -16	A	27756	6029fc	10/9/24	1458	10/10/24	1445	30	1.5				X
WB19-24H -17	A	819	5980	10/9/24	1430	10/10/24	1421	30	2				X

Additional Instructions from Pace®:

Collected By: Elizabeth Hwang
Printed Name: Elizabeth Hwang
Signature: Elizabeth Hwang

Customer Remarks / Special Conditions / Possible Hazards: Standard TAT

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C):

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Elizabeth Hwang	10/10/24 1545	AJ	10/10/24 1545
Gabriel Bloomfield	10/11/24 1300	Gabriel Bloomfield	10-11-24 1300
Gabriel Bloomfield	10-11-24 1450	Walter Sneath	10-11-24 1450
Walter Sneath	10-11-24 17:00		10.11.24 1700

Tracking Number:
Delivered by: In-Person Courier FedEX UPS Other
Page: ____ of: ____

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

ENV-FRM-CORQ-0020_v02_110123 ©

Chain of Custody and Cooler Receipt Form for 2416470 Page 3 of 4

PACE ANALYTICLA — COOLER RECEIPT FORM — Page 1 Of 2

Submission #: 24-16470

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐
Pace Lab Field Service ☑ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☐ None ☐ Box ☑
Other ☐ (Specify)_____

FREE LIQUID
YES ☐ NO ☑
W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received
☑ YES ☐ NO

Emissivity: — Container: Sunny Thermometer ID: —
Temperature: (A) ROOM °C / (C) TEMP °C
Date/Time 10/11/24 1700
Analyst Init MPJ

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER 6L	A	A	A	A	A	A	A	A	A	A

DISTRIBUTION ☐ SUB OUT ☐ CHK BY

Comments:
Sample Numbering Completed By: MPJ Date/Time: 10/11/24 2137
A = Actual / C = Corrected

Rev 23 05/20/22
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMRECrev 20]

Chain of Custody and Cooler Receipt Form for 2416470 Page 4 of 4

PACE ANALYTICLA — **COOLER RECEIPT FORM** — Page 2 Of 2

Submission #: 24-16470

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☐ None ☐ Box ☑	YES ☐ NO ☑
Pace Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑YES ☐ NO

Emissivity: — Container: Summa Thermometer ID: —

Temperature: (A) ROOM °C / (C) TEMP °C

Date/Time 10/11/24 1706

Analyst Init MP1

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER	A	A	A	A	A	A	A			

Comments:_____

Sample Numbering Completed By: MP1 Date/Time: 10/11/24 2133

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

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ENVIRONMENTAL SCIENCES

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416470-01	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 11:48
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB01-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-02	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:38
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB02-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-03	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:42
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB03-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-04	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:44
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB04-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-05	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:46
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB05-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-06	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB06-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-07	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:08
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB07-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416470-08	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:11
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB08-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-09	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB09-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-10	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:44
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB10-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-11	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:13
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB11-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-12	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB12-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-13	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB13-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-14	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB14-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416470-15	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:31
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB17-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-16	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB18-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-17	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:21
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB19-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-01 | **Client Sample Name:** WB01-24H, 10/10/2024 11:48:00AM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.74**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.47**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.29**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.21**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.3**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.94**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.32**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	96.9	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	96.9	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-01 | **Client Sample Name:** WB01-24H, 10/10/2024 11:48:00AM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 19:32	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-02 | **Client Sample Name:** WB02-24H, 10/10/2024 12:38:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.88**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.46**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.17**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.078**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.070**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.36**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.43**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.9**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.50**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.38**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	81.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-02 | **Client Sample Name:** WB02-24H, 10/10/2024 12:38:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 20:18	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 15:20	BEP	MS-A2	10	B199781	EPA TO-15

DCN = Data Continuation Number

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-03 | **Client Sample Name:** WB03-24H, 10/10/2024 12:42:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.70**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.17**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.064**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.48**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.25**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.16**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.79**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	112	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	112	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416470-03	**Client Sample Name:**	WB03-24H, 10/10/2024 12:42:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 21:05	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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ENVIRONMENTAL SCIENCES

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-04 | **Client Sample Name:** WB04-24H, 10/10/2024 12:44:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.85**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.28**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.18**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.4**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.93**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.33**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-04 | **Client Sample Name:** WB04-24H, 10/10/2024 12:44:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 21:51	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-05 | **Client Sample Name:** WB05-24H, 10/10/2024 12:46:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.91**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.39**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.19**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.0**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.50**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.9**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	83.8	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-05 | **Client Sample Name:** WB05-24H, 10/10/2024 12:46:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 22:39	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 16:03	BEP	MS-A2	10	B199781	EPA TO-15

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-06 | **Client Sample Name:** WB06-24H, 10/10/2024 1:05:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.68**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.16**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.42**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.25**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.14**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.82**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.28**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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	Project Manager: Yola Byram

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BCL Sample ID:	2416470-06	**Client Sample Name:**	WB06-24H, 10/10/2024 1:05:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 23:25	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-07 | **Client Sample Name:** WB07-24H, 10/10/2024 1:08:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.71**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.47**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.16**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.064**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.25**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.14**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.51**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.75**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.27**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.0**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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BCL Sample ID: 2416470-07 | **Client Sample Name:** WB07-24H, 10/10/2024 1:08:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 00:13	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-08 | **Client Sample Name:** WB08-24H, 10/10/2024 1:11:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.69**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.26**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.15**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.80**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-08 | **Client Sample Name:** WB08-24H, 10/10/2024 1:11:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 01:00	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-09 | **Client Sample Name:** WB09-24H, 10/10/2024 12:20:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.86**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.32**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.42**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.38**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.17**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.8**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.49**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.9**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions	**Reported:** 11/11/2024 15:09
315 Montana Ave Suite 311	Project: Walnut Bluff
Santa Monica, CA 90403	Project Number: Walnut Bluff Work Plan
	Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416470-09	**Client Sample Name:**	WB09-24H, 10/10/2024 12:20:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 01:45	BEP	MS-A2	1	B199628	EPA TO-15

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ENVIRONMENTAL SCIENCES

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-10 | **Client Sample Name:** WB10-24H, 10/10/2024 1:44:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.1**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.072**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.47**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.28**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.7**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.41**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.8**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-10 | **Client Sample Name:** WB10-24H, 10/10/2024 1:44:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 02:32	BEP	MS-A2	1	B199628	EPA TO-15

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-11 | **Client Sample Name:** WB11-24H, 10/10/2024 2:13:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.69**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.27**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.12**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.85**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	96.4	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	96.4	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-11 | **Client Sample Name:** WB11-24H, 10/10/2024 2:13:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 03:21	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-12 | **Client Sample Name:** WB12-24H, 10/10/2024 12:30:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.73**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.27**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.17**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.3**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.89**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.32**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.2**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-12 | **Client Sample Name:** WB12-24H, 10/10/2024 12:30:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 04:09	BEP	MS-A2	1	B199628	EPA TO-15

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-13 | **Client Sample Name:** WB13-24H, 10/10/2024 1:50:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.72**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.17**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.26**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.15**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.79**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	98.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	98.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions	**Reported:** 11/11/2024 15:09
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	Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416470-13	**Client Sample Name:**	WB13-24H, 10/10/2024 1:50:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 04:57	BEP	MS-A2	1	B199628	EPA TO-15

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-14 | **Client Sample Name:** WB14-24H, 10/10/2024 1:55:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.73**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.066**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.24**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.13**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.3**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.77**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.27**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.0**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416470-14	**Client Sample Name:**	WB14-24H, 10/10/2024 1:55:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 05:45	BEP	MS-A2	1	B199628	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-15 | **Client Sample Name:** WB17-24H, 10/10/2024 2:31:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.92**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.068**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.47**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.34**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.22**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.2**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.1**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.40**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	83.5	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-15 | **Client Sample Name:** WB17-24H, 10/10/2024 2:31:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 06:33	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 16:43	BEP	MS-A2	10	B199781	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-16 | **Client Sample Name:** WB18-24H, 10/10/2024 2:45:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.94**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.069**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.48**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.51**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.21**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.1**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.9**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.64**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	100	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	100	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	77.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-16 | **Client Sample Name:** WB18-24H, 10/10/2024 2:45:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 07:22	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 17:26	BEP	MS-A2	10	B199781	EPA TO-15

DCN = Data Continuation Number

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Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-17 | **Client Sample Name:** WB19-24H, 10/10/2024 2:21:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.1**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.076**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.33**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.16**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.5**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.51**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.1**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.36**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-17 | **Client Sample Name:** WB19-24H, 10/10/2024 2:21:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 08:10	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B199628							
Benzene	B199628-BLK1	ND	ug/m3	0.050	0.0032		1
Benzyl chloride	B199628-BLK1	ND	ug/m3	0.50	0.0052		1
Carbon tetrachloride	B199628-BLK1	ND	ug/m3	0.20	0.0063		1
Chlorobenzene	B199628-BLK1	ND	ug/m3	0.10	0.0079		1
Chloroform	B199628-BLK1	ND	ug/m3	0.050	0.0058		1
1,2-Dibromoethane	B199628-BLK1	ND	ug/m3	0.20	0.014		1
1,2-Dichlorobenzene	B199628-BLK1	ND	ug/m3	0.20	0.011		1
1,3-Dichlorobenzene	B199628-BLK1	ND	ug/m3	0.20	0.013		1
1,4-Dichlorobenzene	B199628-BLK1	ND	ug/m3	0.20	0.016		1
Dichlorodifluoromethane	B199628-BLK1	ND	ug/m3	0.050	0.0052		1
1,1-Dichloroethane	B199628-BLK1	ND	ug/m3	0.050	0.0041		1
1,2-Dichloroethane	B199628-BLK1	ND	ug/m3	0.10	0.0046		1
1,1-Dichloroethene	B199628-BLK1	ND	ug/m3	0.050	0.0078		1
cis-1,2-Dichloroethene	B199628-BLK1	ND	ug/m3	0.050	0.0044		1
trans-1,2-Dichloroethene	B199628-BLK1	ND	ug/m3	0.050	0.0075		1
trans-1,3-Dichloropropene	B199628-BLK1	ND	ug/m3	0.050	0.013		1
1,1-Difluoroethane	B199628-BLK1	ND	ug/m3	5.0	0.0027		1
Ethylbenzene	B199628-BLK1	ND	ug/m3	0.050	0.017		1
Naphthalene	B199628-BLK1	ND	ug/m3	0.20	0.020		1
Tetrachloroethene	B199628-BLK1	ND	ug/m3	0.10	0.011		1
Toluene	B199628-BLK1	ND	ug/m3	0.10	0.0062		1
1,1,1-Trichloroethane	B199628-BLK1	ND	ug/m3	0.10	0.0055		1
1,1,2-Trichloroethane	B199628-BLK1	ND	ug/m3	0.10	0.0055		1
Trichloroethene	B199628-BLK1	ND	ug/m3	0.10	0.0095		1
Trichlorofluoromethane	B199628-BLK1	ND	ug/m3	0.050	0.0057		1
1,1,2-Trichloro-1,2,2-trifluoroethane	B199628-BLK1	ND	ug/m3	0.10	0.0078		1
Vinyl chloride	B199628-BLK1	ND	ug/m3	0.020	0.0046		1
p- & m-Xylenes	B199628-BLK1	ND	ug/m3	0.050	0.0082		1
o-Xylene	B199628-BLK1	ND	ug/m3	0.050	0.0044		1
Total Xylenes	B199628-BLK1	ND	ug/m3	0.10	0.013		1
4-Bromofluorobenzene (Surrogate)	**B199628-BLK1**	**86.5**	%	**50 - 150 (LCL - UCL)**			1
QC Batch ID: B199781							
Toluene	B199781-BLK1	ND	ug/m3	0.10	0.0062		2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B199781							
4-Bromofluorobenzene (Surrogate)	**B199781-BLK1**	**83.5**	%	**50 - 150 (LCL - UCL)**			2

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B199628-BLK1	PB	EPA-TO-15-SIM	10/24/24	10/24/24 18:46	BEP	MS-A2	1
2	B199781-BLK1	PB	EPA-TO-15-SIM	10/25/24	10/25/24 14:37	BEP	MS-A2	1

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B199628											
Benzene	B199628-BS1	LCS	0.33679	0.31948	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.33734	0.31948	ug/m3	106	0.2	70 - 130	25		2
Benzyl chloride	B199628-BS1	LCS	0.51450	0.51772	ug/m3	99.4		70 - 130			1
	B199628-BSD1	LCSD	0.51448	0.51772	ug/m3	99.4	0.0	70 - 130	25		2
Carbon tetrachloride	B199628-BS1	LCS	0.66978	0.62913	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.66754	0.62913	ug/m3	106	0.3	70 - 130	25		2
Chlorobenzene	B199628-BS1	LCS	0.49549	0.46036	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.49226	0.46036	ug/m3	107	0.7	70 - 130	25		2
Chloroform	B199628-BS1	LCS	0.52390	0.48825	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	0.51913	0.48825	ug/m3	106	0.9	70 - 130	25		2
1,2-Dibromoethane	B199628-BS1	LCS	0.81772	0.76835	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.80755	0.76835	ug/m3	105	1.3	70 - 130	25		2
1,2-Dichlorobenzene	B199628-BS1	LCS	0.64607	0.60124	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	0.63009	0.60124	ug/m3	105	2.5	70 - 130	25		2
1,3-Dichlorobenzene	B199628-BS1	LCS	0.64921	0.60124	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.64595	0.60124	ug/m3	107	0.5	70 - 130	25		2
1,4-Dichlorobenzene	B199628-BS1	LCS	0.64543	0.60124	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	0.63705	0.60124	ug/m3	106	1.3	70 - 130	25		2
1,1-Dichloroethane	B199628-BS1	LCS	0.42885	0.40474	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.43366	0.40474	ug/m3	107	1.1	70 - 130	25		2
1,2-Dichloroethane	B199628-BS1	LCS	0.42902	0.40474	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.42600	0.40474	ug/m3	105	0.7	70 - 130	25		2
1,1-Dichloroethene	B199628-BS1	LCS	0.41563	0.39649	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.42633	0.39649	ug/m3	108	2.5	70 - 130	25		2
cis-1,2-Dichloroethene	B199628-BS1	LCS	0.41070	0.39649	ug/m3	104		70 - 130			1
	B199628-BSD1	LCSD	0.41668	0.39649	ug/m3	105	1.4	70 - 130	25		2
Tetrachloroethene	B199628-BS1	LCS	0.67497	0.67825	ug/m3	99.5		70 - 130			1
	B199628-BSD1	LCSD	0.67019	0.67825	ug/m3	98.8	0.7	70 - 130	25		2
Toluene	B199628-BS1	LCS	0.40096	0.37684	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.39894	0.37684	ug/m3	106	0.5	70 - 130	25		2
1,1,1-Trichloroethane	B199628-BS1	LCS	0.57334	0.54562	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.57571	0.54562	ug/m3	106	0.4	70 - 130	25		2
1,1,2-Trichloroethane	B199628-BS1	LCS	0.57532	0.54562	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.57331	0.54562	ug/m3	105	0.3	70 - 130	25		2
Trichloroethene	B199628-BS1	LCS	0.56714	0.53737	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.56981	0.53737	ug/m3	106	0.5	70 - 130	25		2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B199628											
Vinyl chloride	B199628-BS1	LCS	0.27725	0.25562	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.27433	0.25562	ug/m3	107	1.1	70 - 130	25		2
p- & m-Xylenes	B199628-BS1	LCS	0.92092	0.86843	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.91407	0.86843	ug/m3	105	0.7	70 - 130	25		2
o-Xylene	B199628-BS1	LCS	0.46891	0.43421	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.46565	0.43421	ug/m3	107	0.7	70 - 130	25		2
Total Xylenes	B199628-BS1	LCS	1.3898	1.3026	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	1.3797	1.3026	ug/m3	106	0.7	70 - 130	25		2
4-Bromofluorobenzene (Surrogate)	B199628-BS1	LCS	3.76	3.58	ug/m3	105		50 - 150			1
	B199628-BSD1	LCSD	3.69	3.58	ug/m3	103	1.7	50 - 150			2
QC Batch ID: B199781											
Toluene	B199781-BS1	LCS	0.41380	0.37684	ug/m3	110		70 - 130			3
	B199781-BSD1	LCSD	0.40998	0.37684	ug/m3	109	0.9	70 - 130	25		4
4-Bromofluorobenzene (Surrogate)	B199781-BS1	LCS	3.47	3.58	ug/m3	96.9		50 - 150			3
	B199781-BSD1	LCSD	3.47	3.58	ug/m3	96.9	0.0	50 - 150			4

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B199628-BS1	LCS	EPA-TO-15-SIM	10/24/24	10/24/24 17:18	BEP	MS-A2	1
2	B199628-BSD1	LCSD	EPA-TO-15-SIM	10/24/24	10/24/24 18:00	BEP	MS-A2	1
3	B199781-BS1	LCS	EPA-TO-15-SIM	10/25/24	10/25/24 13:03	BEP	MS-A2	1
4	B199781-BSD1	LCSD	EPA-TO-15-SIM	10/25/24	10/25/24 13:48	BEP	MS-A2	1

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Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

Appendix G

Laboratory Analytical Reports – 1 Hour Samples

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL38.D
Acq On : 4 Jul 2024 6:37 am
Operator : BEP
Sample : BLK-787 24164O4-01
Misc : *
ALS Vial : 13 Sample Multiplier: 1

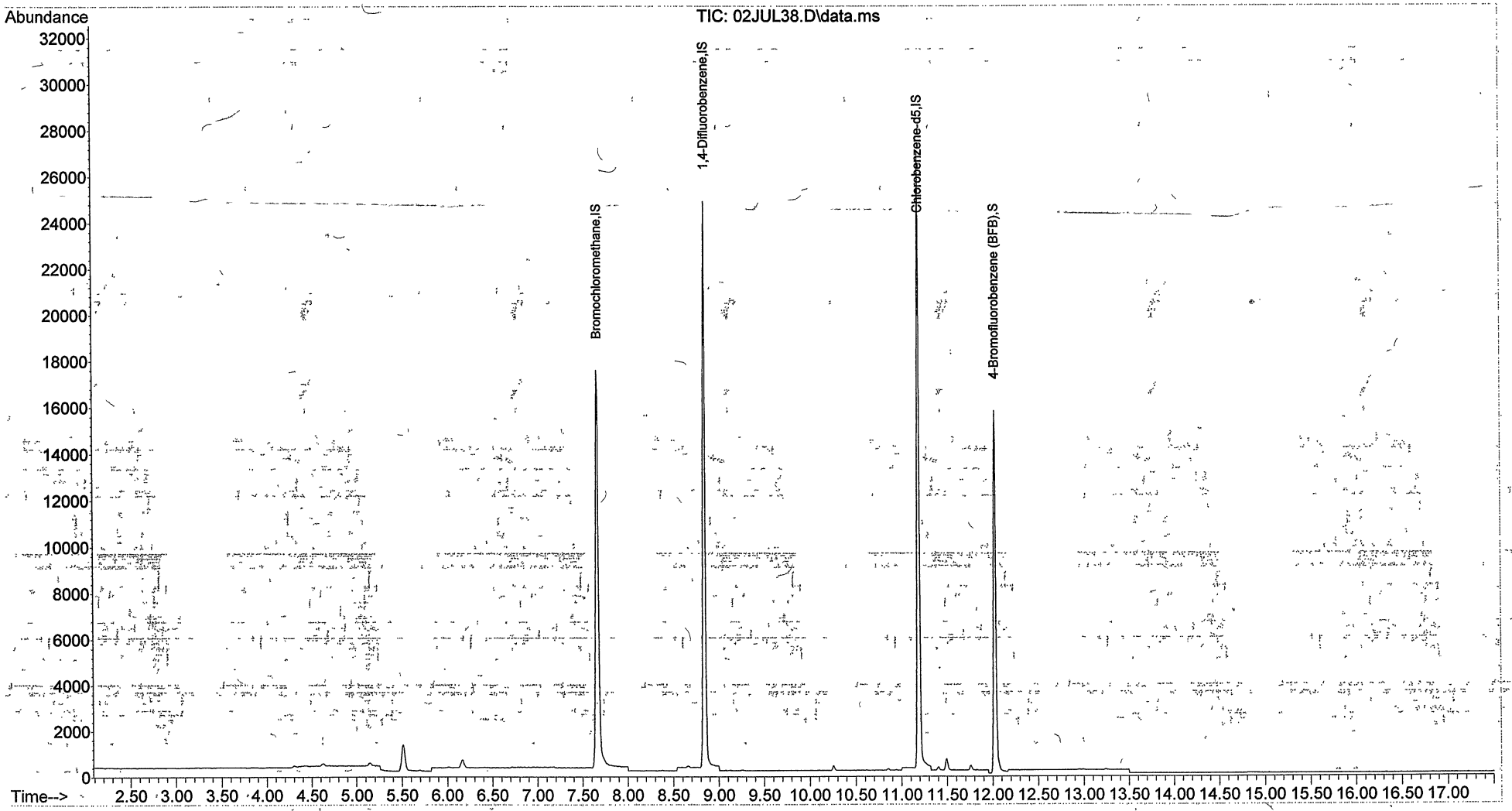
Quant Time: Jul 17 17:55:50 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15583	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.842	114	28672	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	23863	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11062	389.29	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 77.86%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL38.D
Acq On : 4 Jul 2024 6:37 am
Operator : BEP
Sample : BLK-787
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 17 17:55:50 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP20.D
Acq On : 21 Sep 2024 4:55 am
Operator : BEP
Sample : BLK-796 2416404-02
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 23 10:34:21 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration

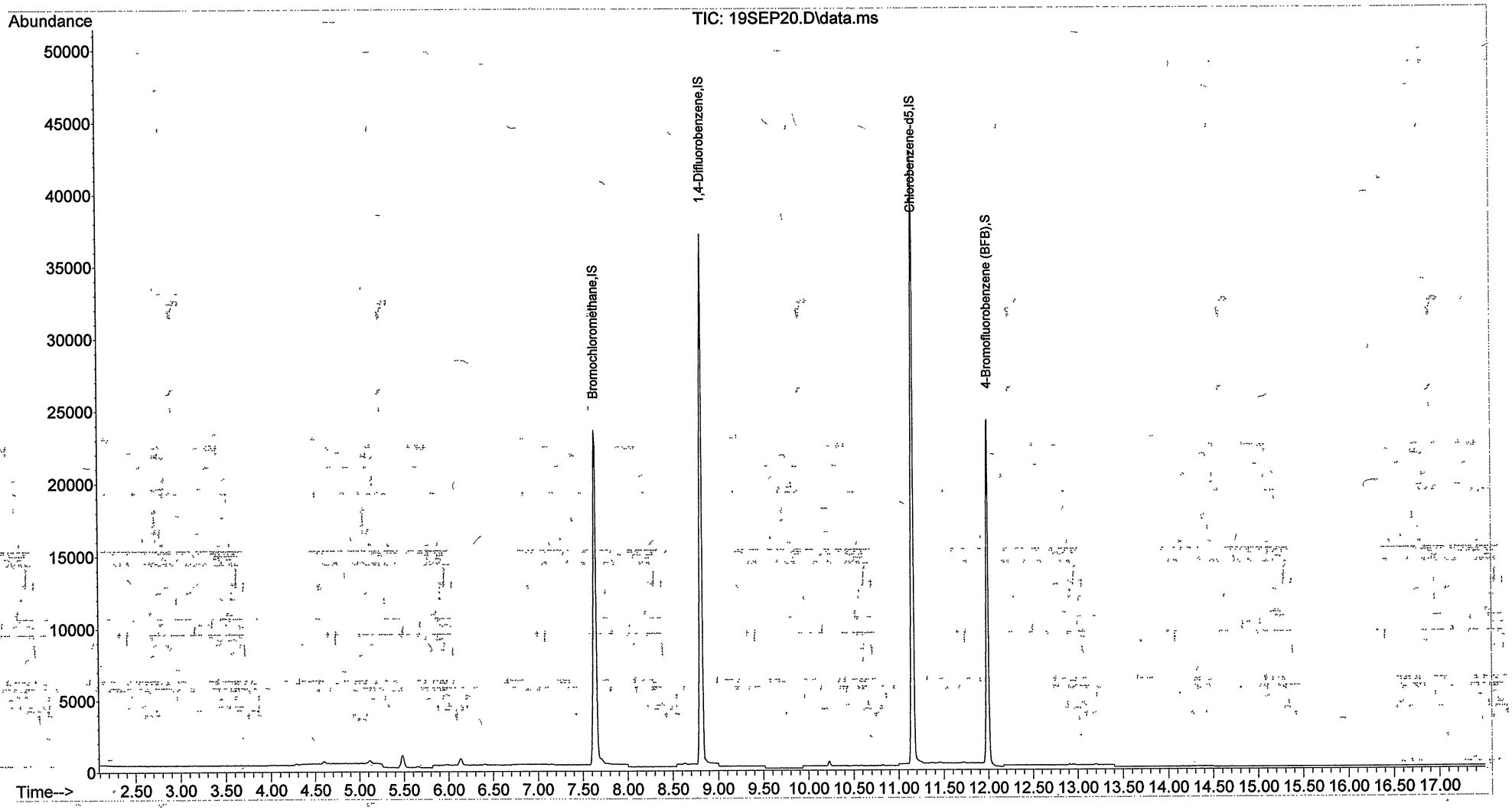
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.629	49	22920	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.813	114	41699	500.00	pptv	0.00
29) Chlorobenzene-d5	11.152	117	37081	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.991	95	17832	431.16	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 86.23%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP20.D
Acq On : 21 Sep 2024 4:55 am
Operator : BEP
Sample : BLK-796
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 23 10:34:21 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP22.D
Acq On : 21 Sep 2024 6:28 am
Operator : BEP
Sample : BLK-803 2416404-03
Misc : *
ALS Vial : 12 Sample Multiplier: 1

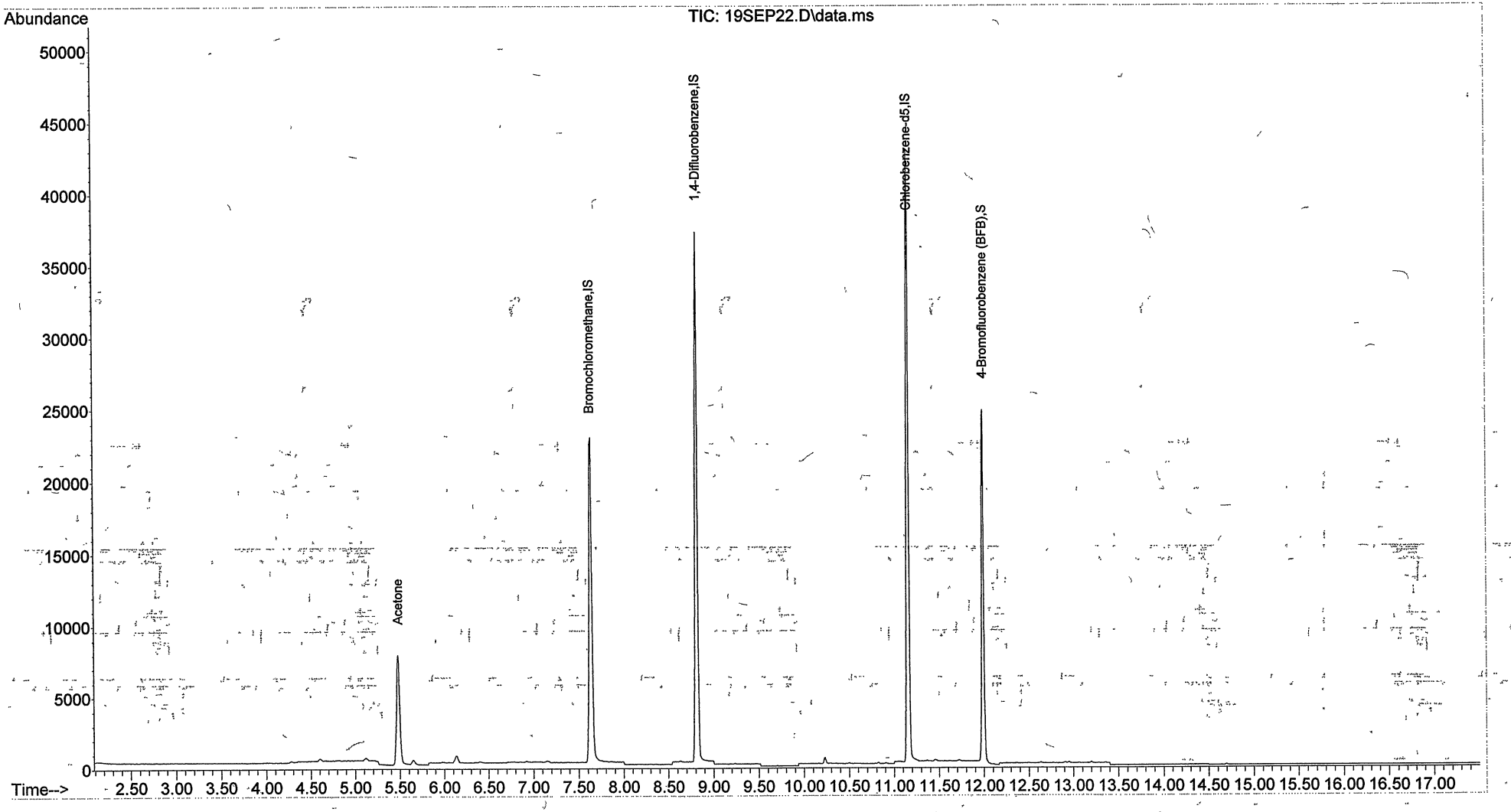
Quant Time: Sep 23 10:35:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.629	49	22821	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.813	114	42239	500.00	pptv	0.00
29) Chlorobenzene-d5	11.152	117	36958	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.991	95	18727	454.30	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 90.86%			
Target Compounds						Qvalue
6) Acetone	5.480	43	15762	132.2757	pptv	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP22.D
Acq On : 21 Sep 2024 6:28 am
Operator : BEP
Sample : BLK-803
Misc : *
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 23 10:35:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG08.D
Acq On : 31 Aug 2024 1:04 am
Operator : BEP
Sample : BLK-23803 2416404-04
Misc : *
ALS Vial : 6 Sample Multiplier: 1

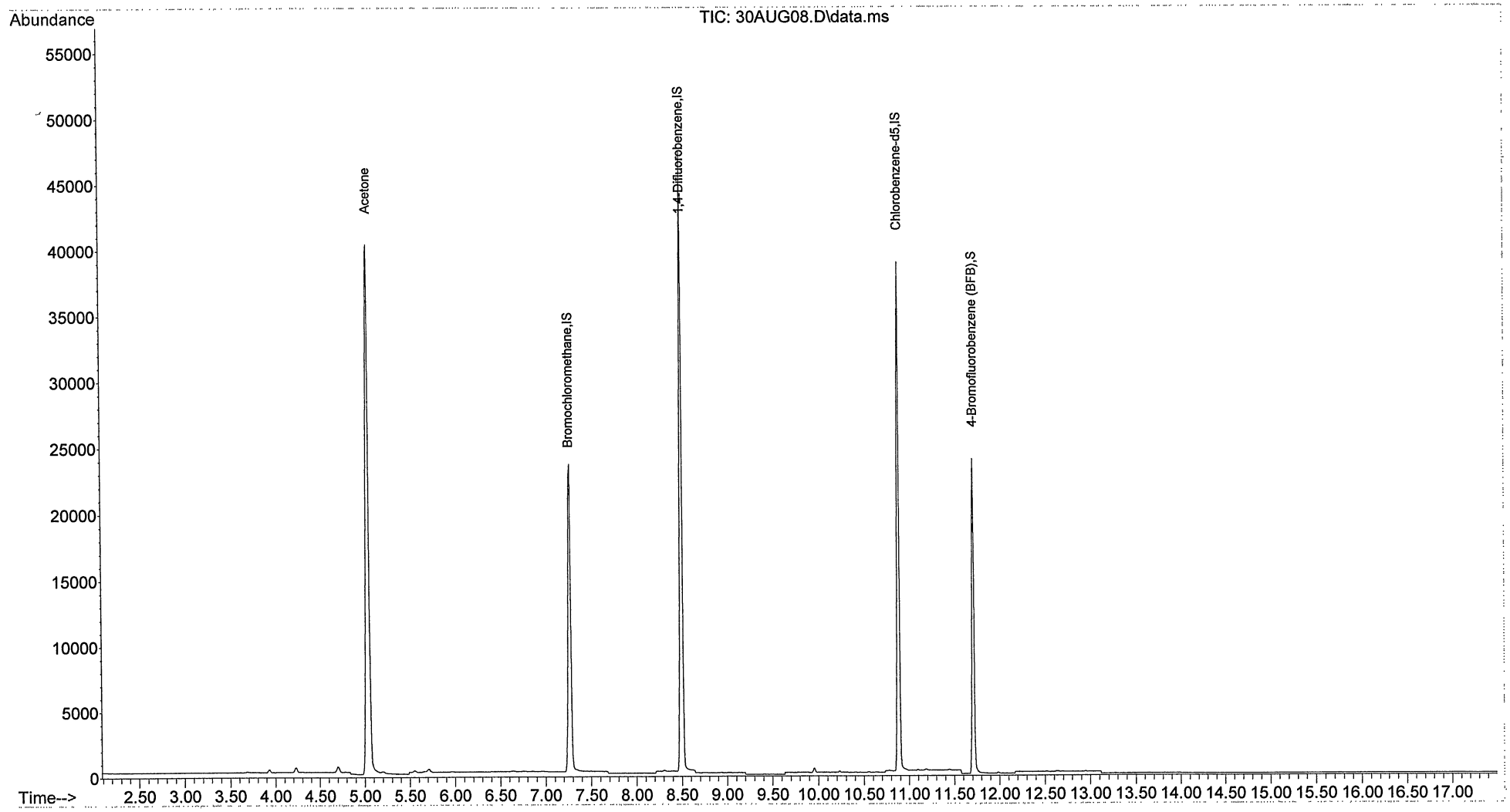
Quant Time: Sep 03 16:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	23162	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	51666	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	30647	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	15979	435.16	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 87.03%			
Target Compounds						Qvalue
6) Acetone	5.035	58	20889	1363.9623	pptv	73

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG08.D
Acq On : 31 Aug 2024 1:04 am
Operator : BEP
Sample : BLK-23803
Misc : *
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 03 16:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP24.D
Acq On : 10 Sep 2024 5:35 pm
Operator : BEP
Sample : blk-37503 2416404-05
Misc : *
ALS Vial : 5 Sample Multiplier: 1

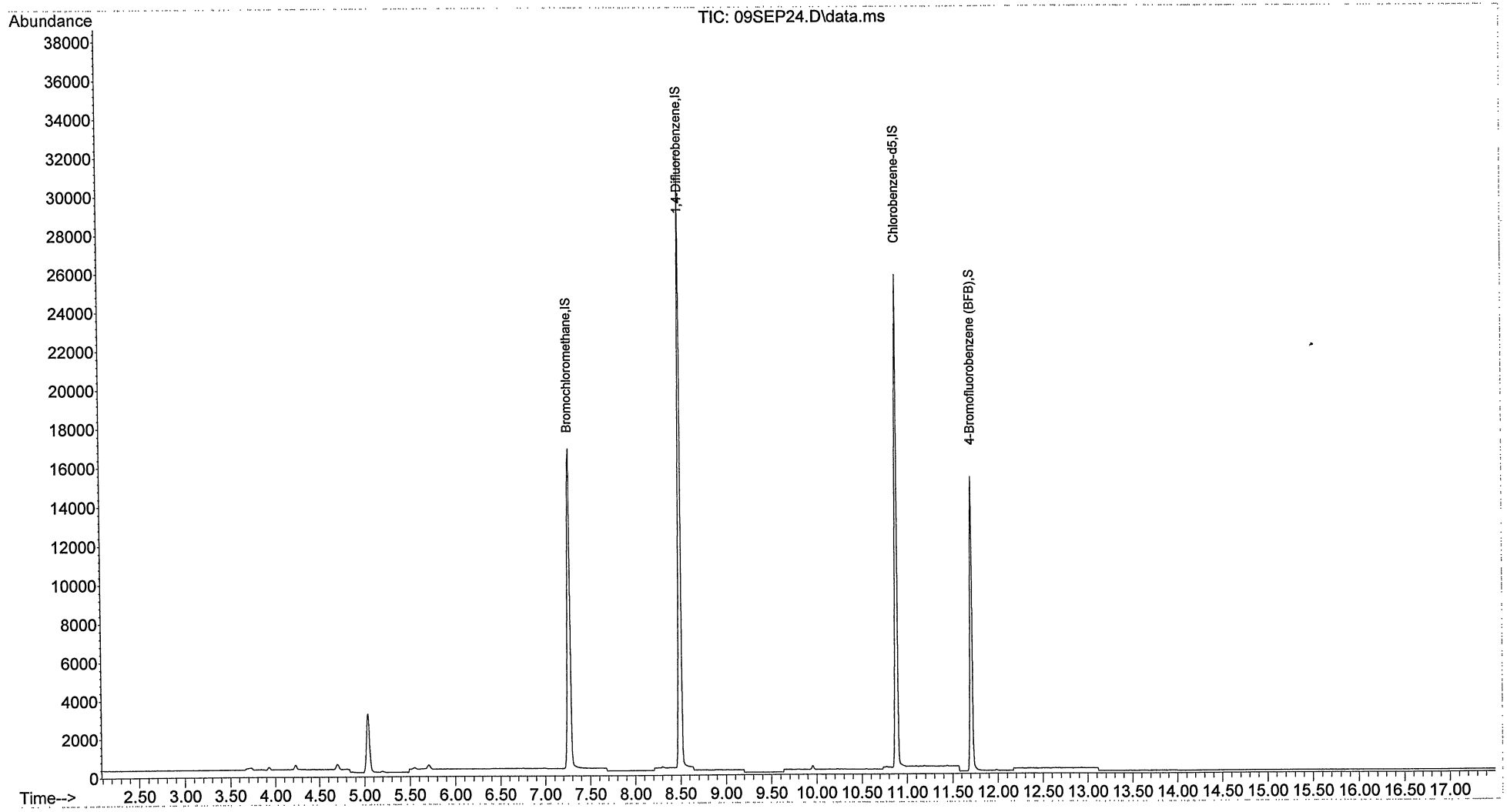
Quant Time: Sep 11 11:28:42 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	16267	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	34344	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	20377	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10205	436.96	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 87.39%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP24.D
Acq On : 10 Sep 2024 5:35 pm
Operator : BEP
Sample : blk-37503
Misc : *
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 11:28:42 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG21\
Data File : 21AUG12.D
Acq On : 22 Aug 2024 2:26 am
Operator : BEP
Sample : BLK-43531 2416404-06
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 30 14:37:53 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

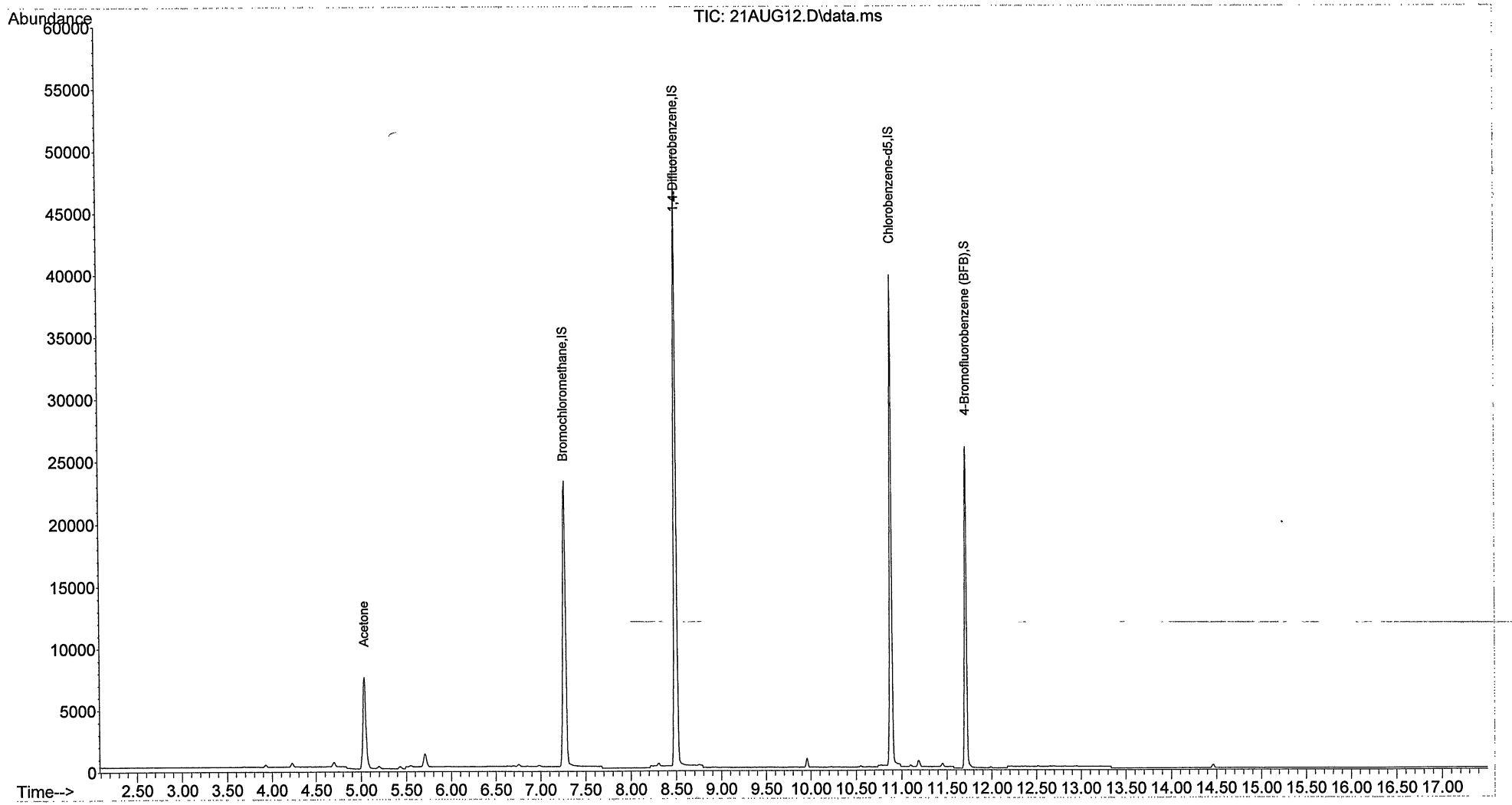
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	23025	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	53678	500.00	pptv	0.00
29) Chlorobenzene-d5	10.880	117	31278	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.710	95	17552	468.35	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 93.67%			
Target Compounds						Qvalue
6) Acetone	5.035	58	4095	253.7771	pptv	67

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG21\
Data File : 21AUG12.D
Acq On : 22 Aug 2024 2:26 am
Operator : BEP
Sample : BLK-43531
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 30 14:37:53 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG16.D
Acq On : 26 Aug 2024 10:28 pm
Operator : BEP
Sample : BLK-49958 2416404-08
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 27 15:08:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

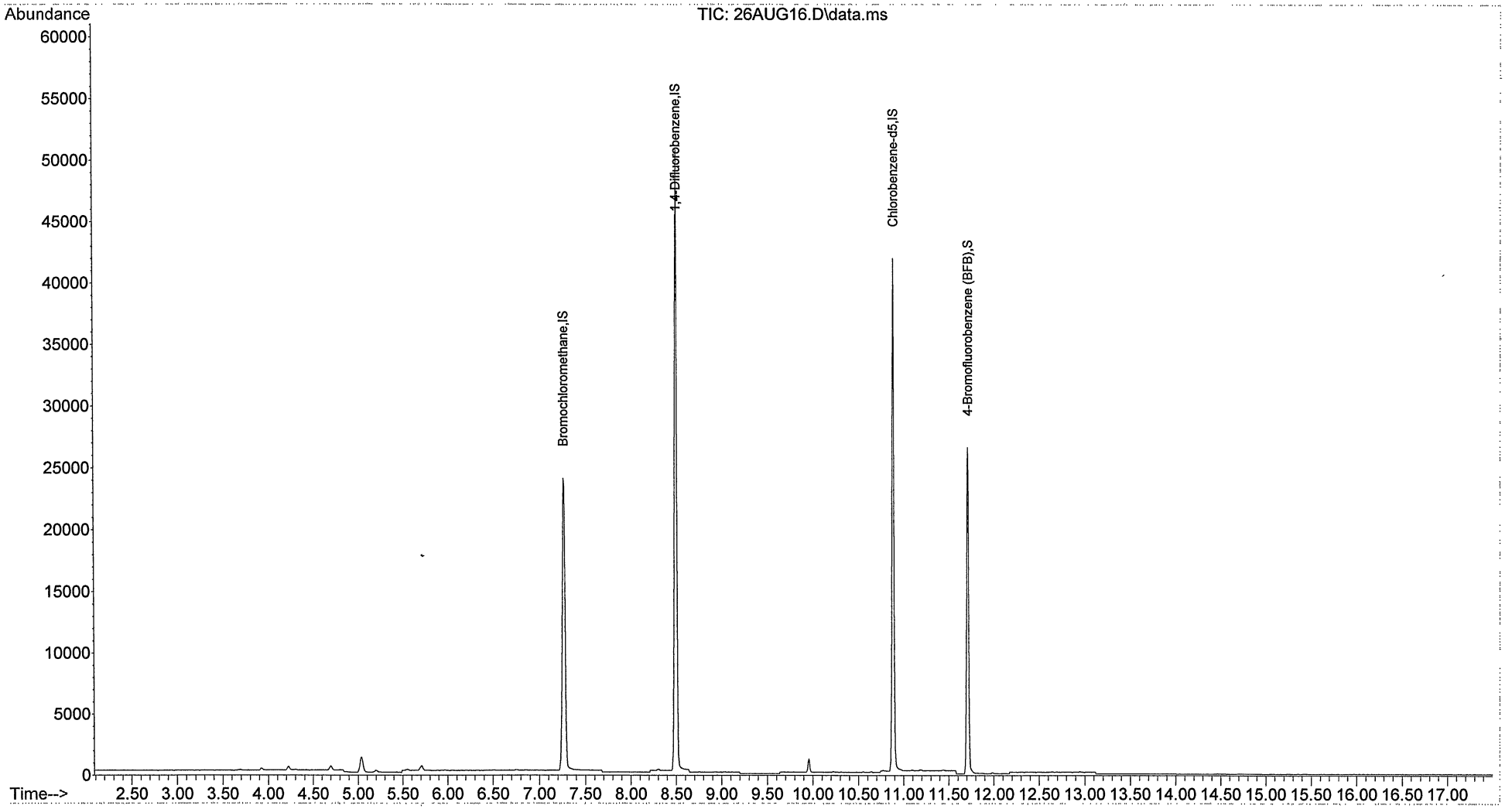
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	23698	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	55023	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	32653	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	18056	461.51	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 92.30%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG16.D
Acq On : 26 Aug 2024 10:28 pm
Operator : BEP
Sample : BLK-49958
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 27 15:08:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG17.D
Acq On : 7 Aug 2024 1:29 am
Operator : BEP
Sample : blk-800b 2416404-09
Misc : *
ALS Vial : 13 Sample Multiplier: 1

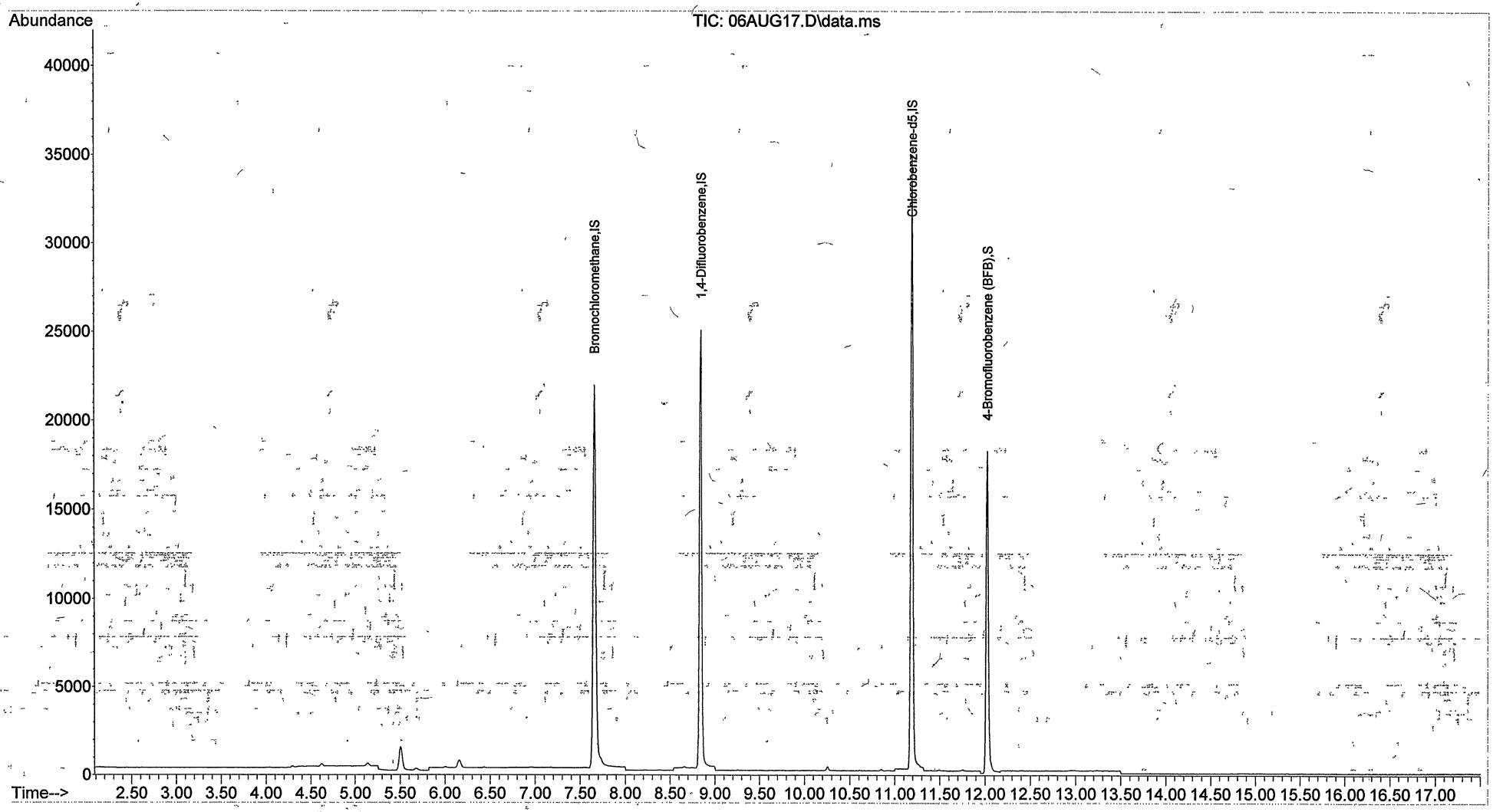
Quant Time: Aug 07 14:56:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	16129	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	30177	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29465	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12599	385.58	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 77.12%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG17.D
Acq On : 7 Aug 2024 1:29 am
Operator : BEP
Sample : blk-800b
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 07 14:56:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP22.D
Acq On : 10 Sep 2024 4:20 pm
Operator : BEP
Sample : blk-679 241 6404 -10
Misc : *
ALS Vial : 3 Sample Multiplier: 1

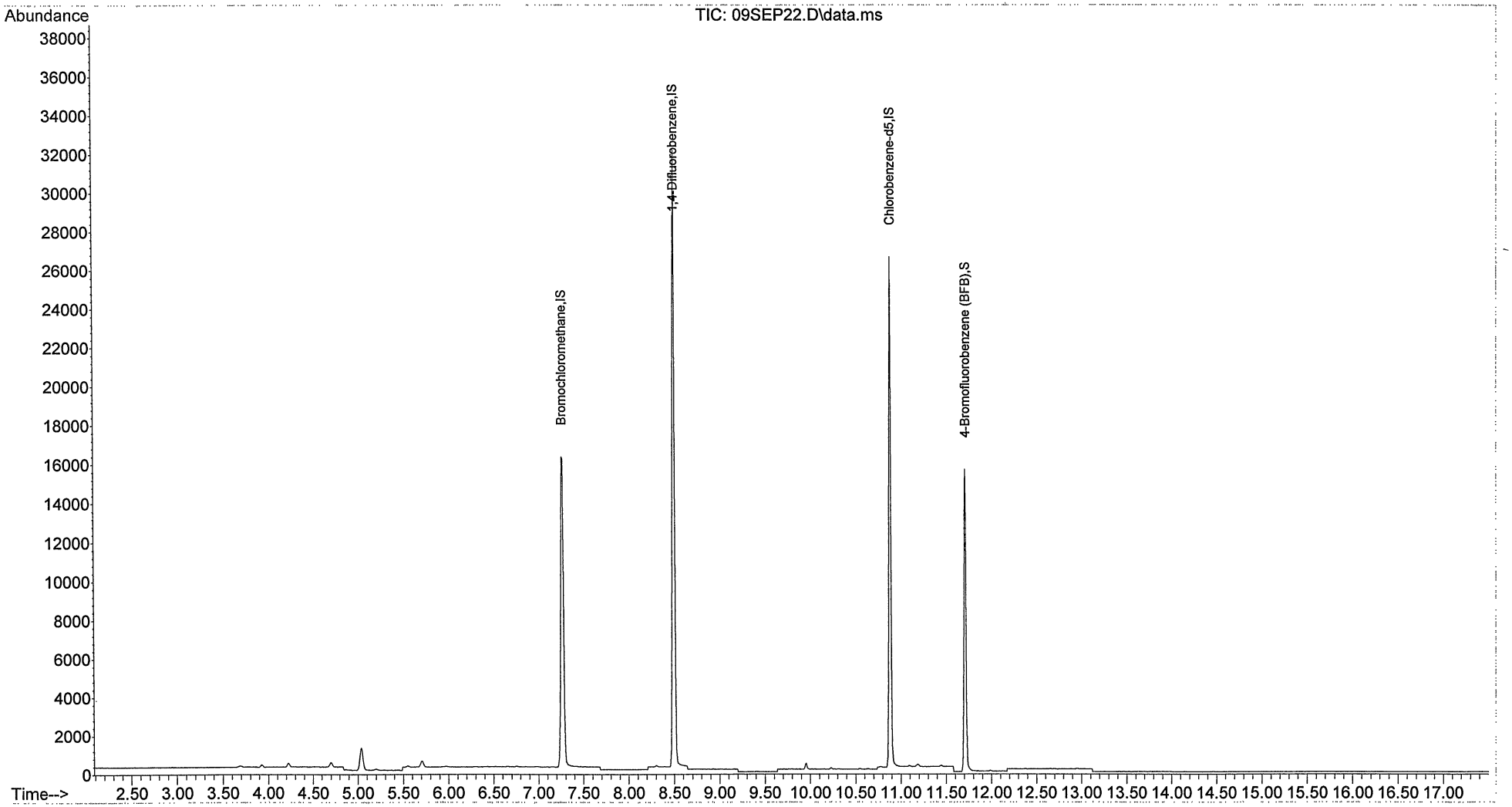
Quant Time: Sep 11 11:28:01 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	16094	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	34647	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	20750	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10547	443.48	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 88.70%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP22.D
Acq On : 10 Sep 2024 4:20 pm
Operator : BEP
Sample : blk-679
Misc : *
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 11 11:28:01 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\MAY2024\MAY15\
Data File : 15MAY18.D
Acq On : 16 May 2024 7:03 pm
Operator : RMK
Sample : BLK-35427 2416404-11
Misc : 13-756
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 12:55:33 2024
Quant Method : C:\msdchem\1\METHODS\2024\202404\25-1228\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Tue May 14 08:57:22 2024
Response via : Initial Calibration

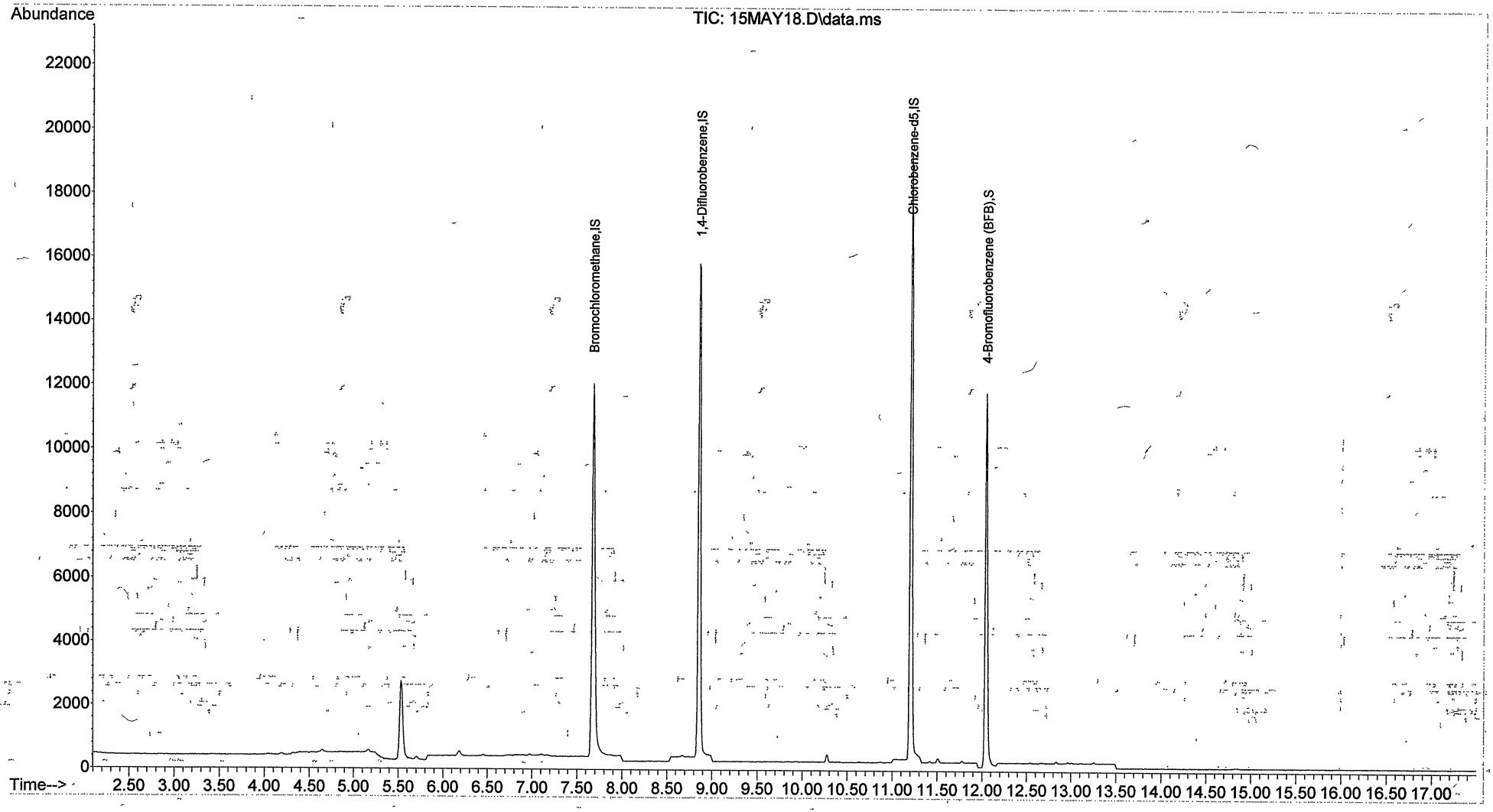
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.677	49	13667	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.861	114	18955	500.00	pptv	0.00
28) Chlorobenzene-d5	11.204	82	10296	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.043	95	8561	374.85	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 74.97%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\MAY2024\MAY15\
Data File : 15MAY18.D
Acq On : 16 May 2024 7:03 pm
Operator : RMK
Sample : BLK-35427
Misc : 13-756
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 12:55:33 2024
Quant Method : C:\msdchem\1\METHODS\2024\202404\25-1228\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Tue May 14 08:57:22 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG13.D
Acq On : 6 Aug 2024 10:26 pm
Operator : BEP
Sample : blk-c8345 2416404-12
Misc : *
ALS Vial : 9 Sample Multiplier: 1

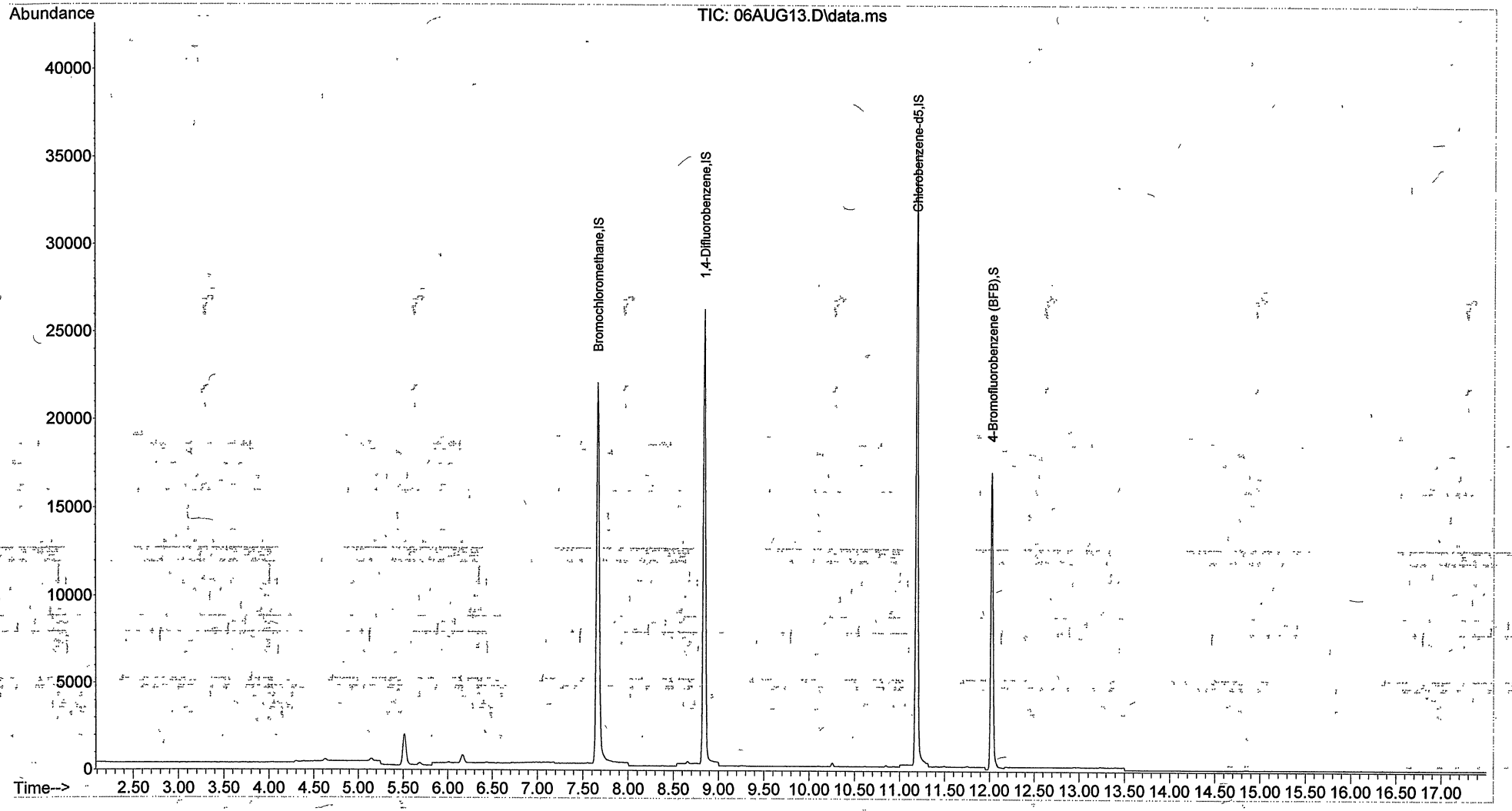
Quant Time: Aug 06 22:58:00 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	16537	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.843	114	31068	500.00	pptv	0.00
28) Chlorobenzene-d5	11.188	117	29673	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	12021	365.31	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 73.06%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG13.D
Acq On : 6 Aug 2024 10:26 pm
Operator : BEP
Sample : blk-c8345
Misc : *
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 22:58:00 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG15.D
Acq On : 6 Aug 2024 11:58 pm
Operator : BEP
Sample : blk-49967 2416404-13
Misc : *
ALS Vial : 11 Sample Multiplier: 1

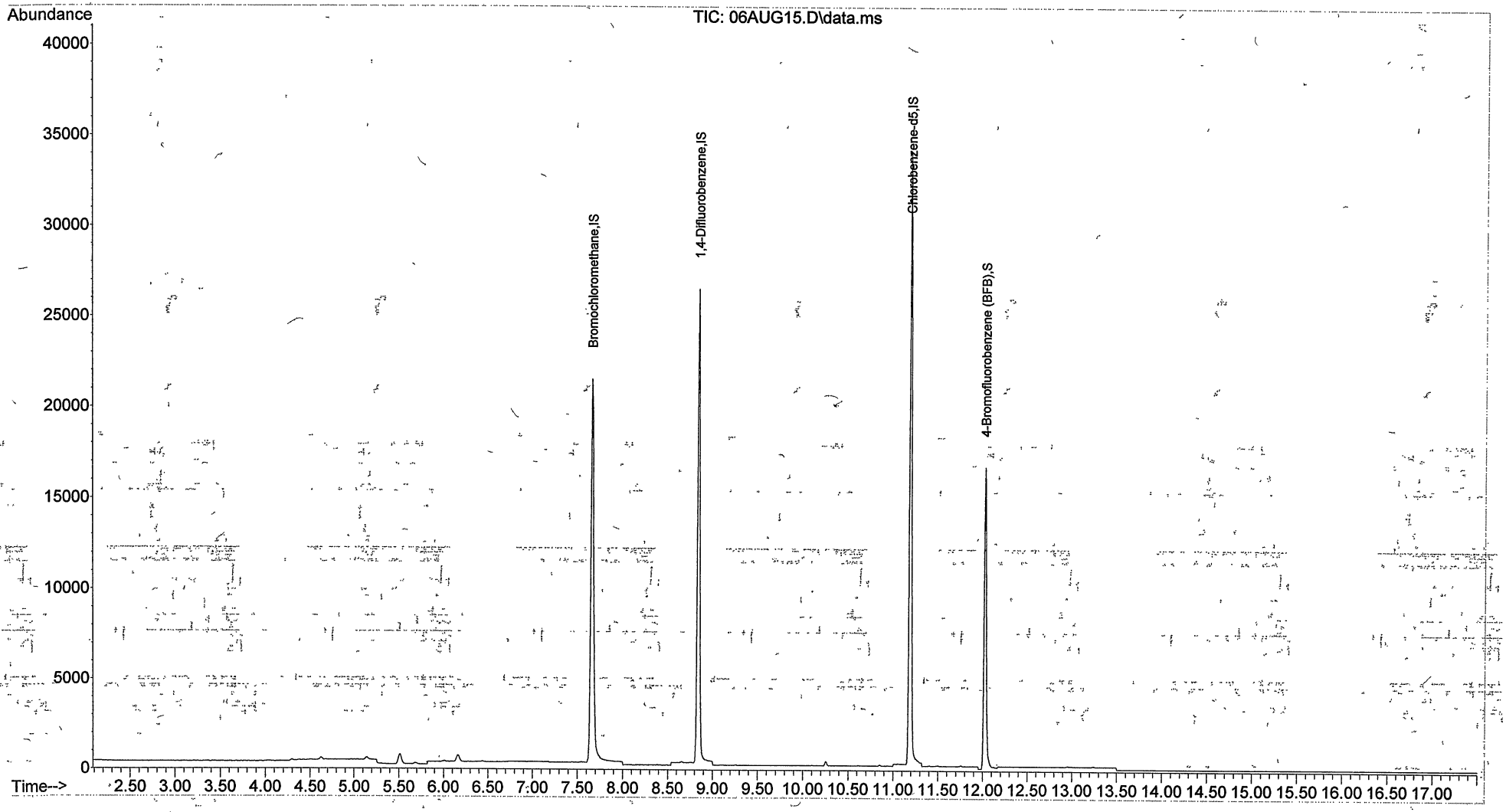
Quant Time: Aug 07 14:55:09 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	16136	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	30838	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29107	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11659	361.20	pptv	-0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 72.24%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG15.D
Acq On : 6 Aug 2024 11:58 pm
Operator : BEP
Sample : blk-49967
Misc : *
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 07 14:55:09 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG17.D
Acq On : 26 Aug 2024 11:04 pm
Operator : BEP
Sample : BLK-802 24164O4-14
Misc : *
ALS Vial : 5 Sample Multiplier: 1

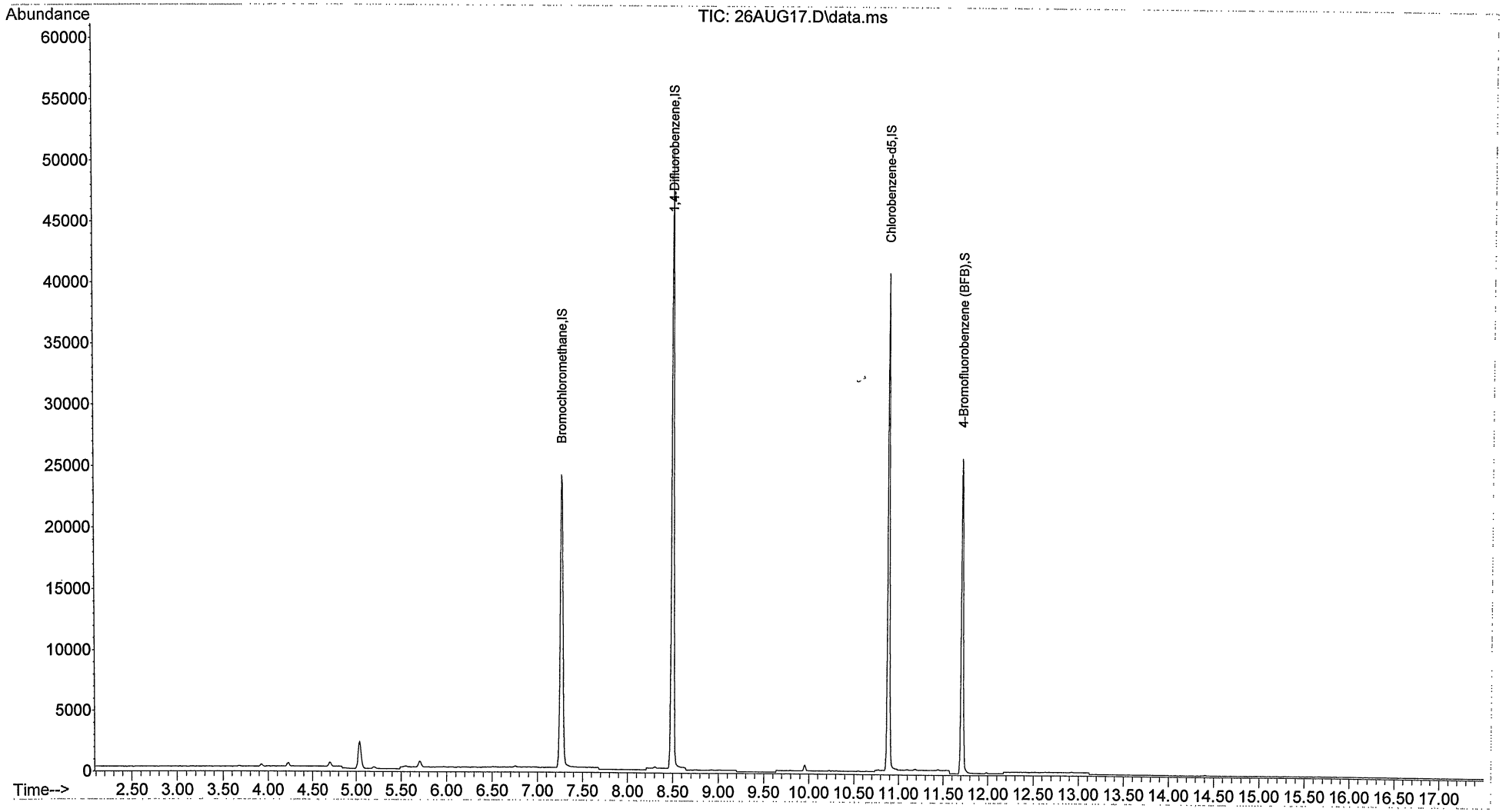
Quant Time: Aug 27 15:09:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.260	49	23951	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	55174	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	32400	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.707	95	17587	453.04	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 90.61%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG17.D
Acq On : 26 Aug 2024 11:04 pm
Operator : BEP
Sample : BLK-802
Misc : *
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 27 15:09:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP23.D
Acq On : 10 Sep 2024 4:58 pm
Operator : BEP
Sample : blk-37519 2416404-15
Misc : *
ALS Vial : 4 Sample Multiplier: 1

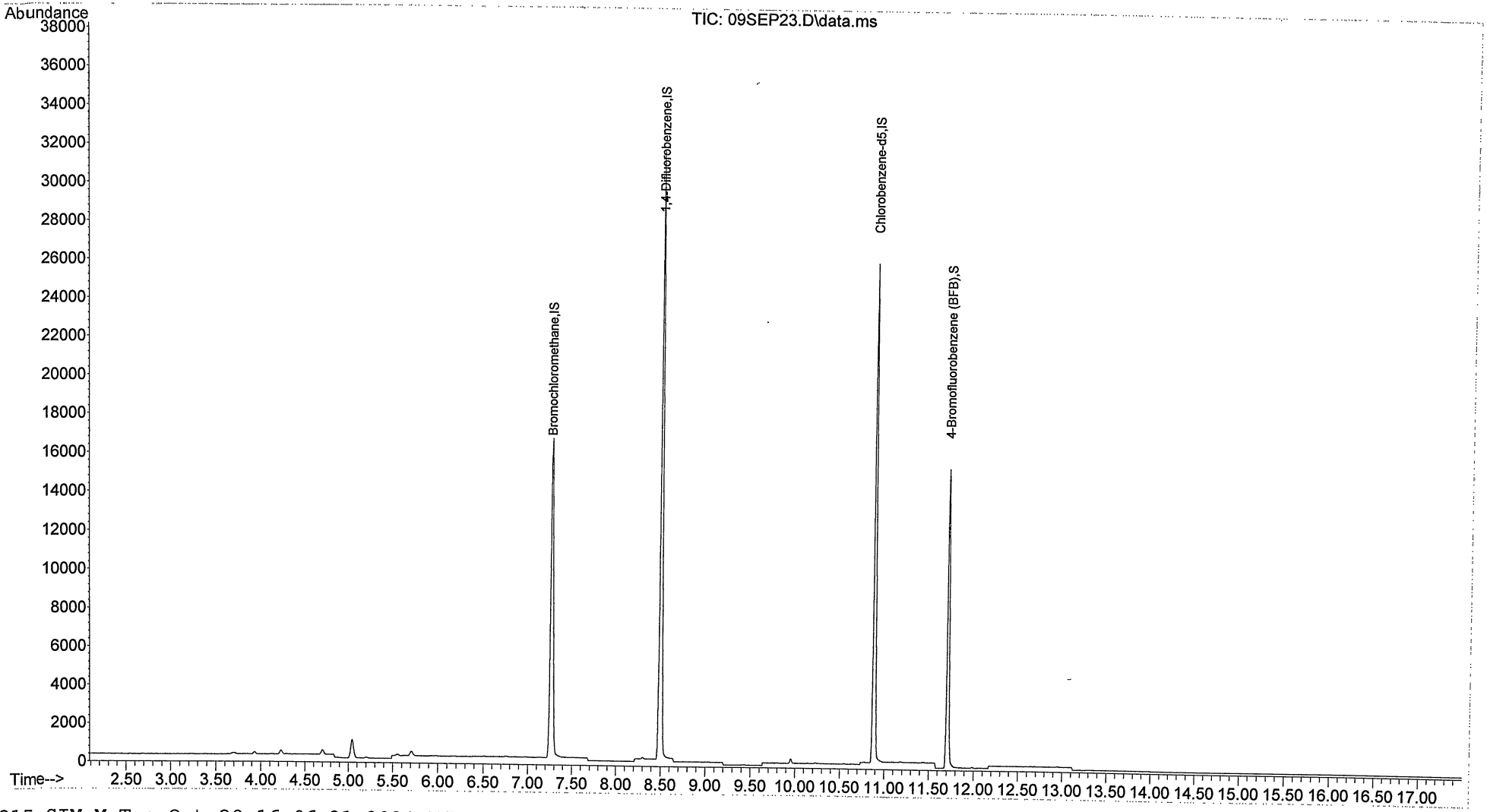
Quant Time: Sep 11 11:28:22 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	16115	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	34136	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	20429	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10341	441.65	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 88.33%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP23.D
Acq On : 10 Sep 2024 4:58 pm
Operator : BEP
Sample : blk-37519
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 11 11:28:22 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG31.D
Acq On : 2 Aug 2024 12:20 pm
Operator : BEP
Sample : BLK-761 2416404-16
Misc : *
ALS Vial : 7 Sample Multiplier: 1

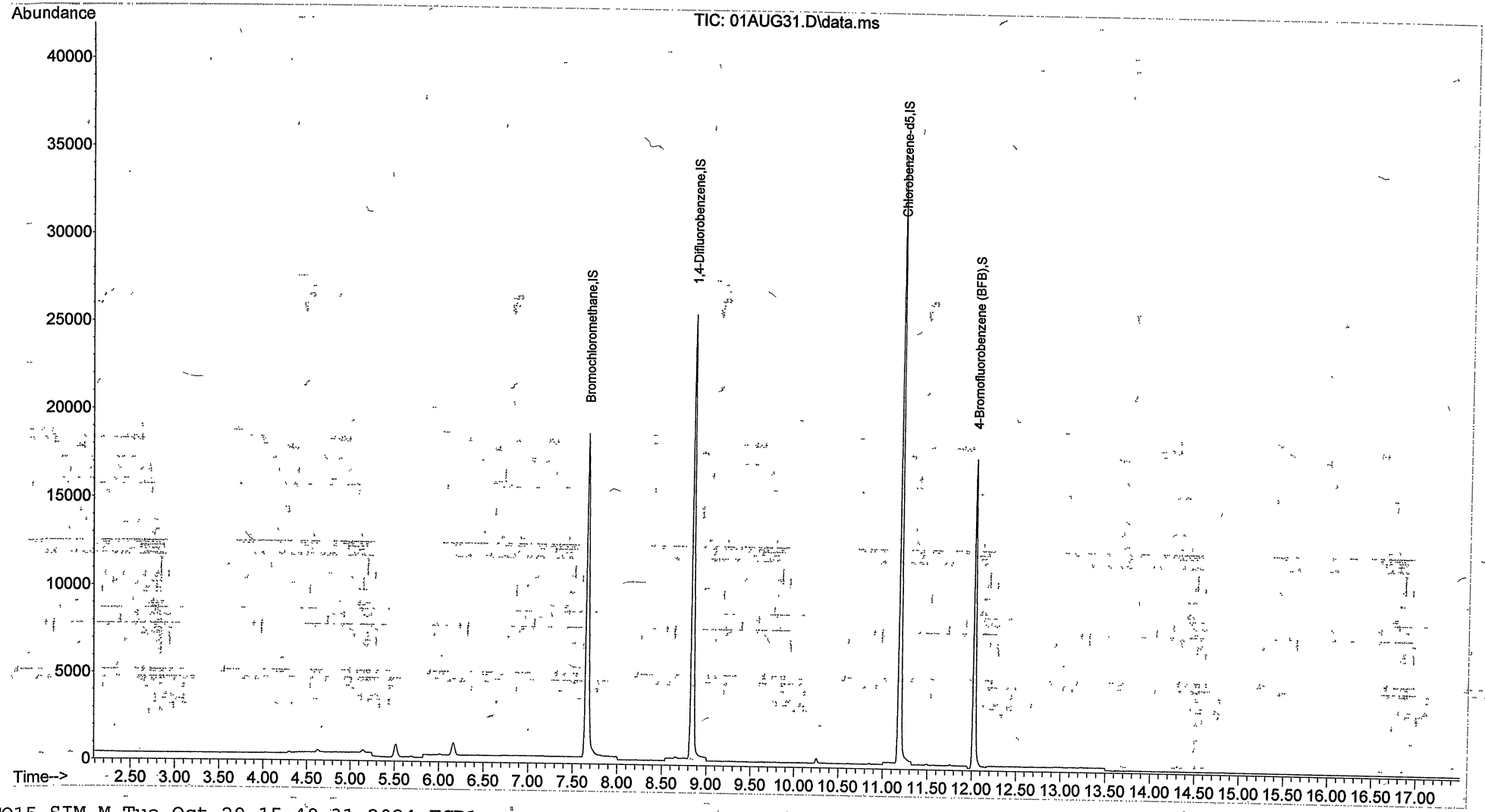
Quant Time: Aug 02 14:51:34 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	13808	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.843	114	30939	500.00	pptv	0.00
28) Chlorobenzene-d5	11.188	117	29094	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	12294	381.04	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 76.21%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG31.D
Acq On : 2 Aug 2024 12:20 pm
Operator : BEP
Sample : BLK-761
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 02 14:51:34 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP17.D
Acq On : 21 Sep 2024 2:35 am
Operator : BEP
Sample : BLK-744 2416404-17
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 23 10:33:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration

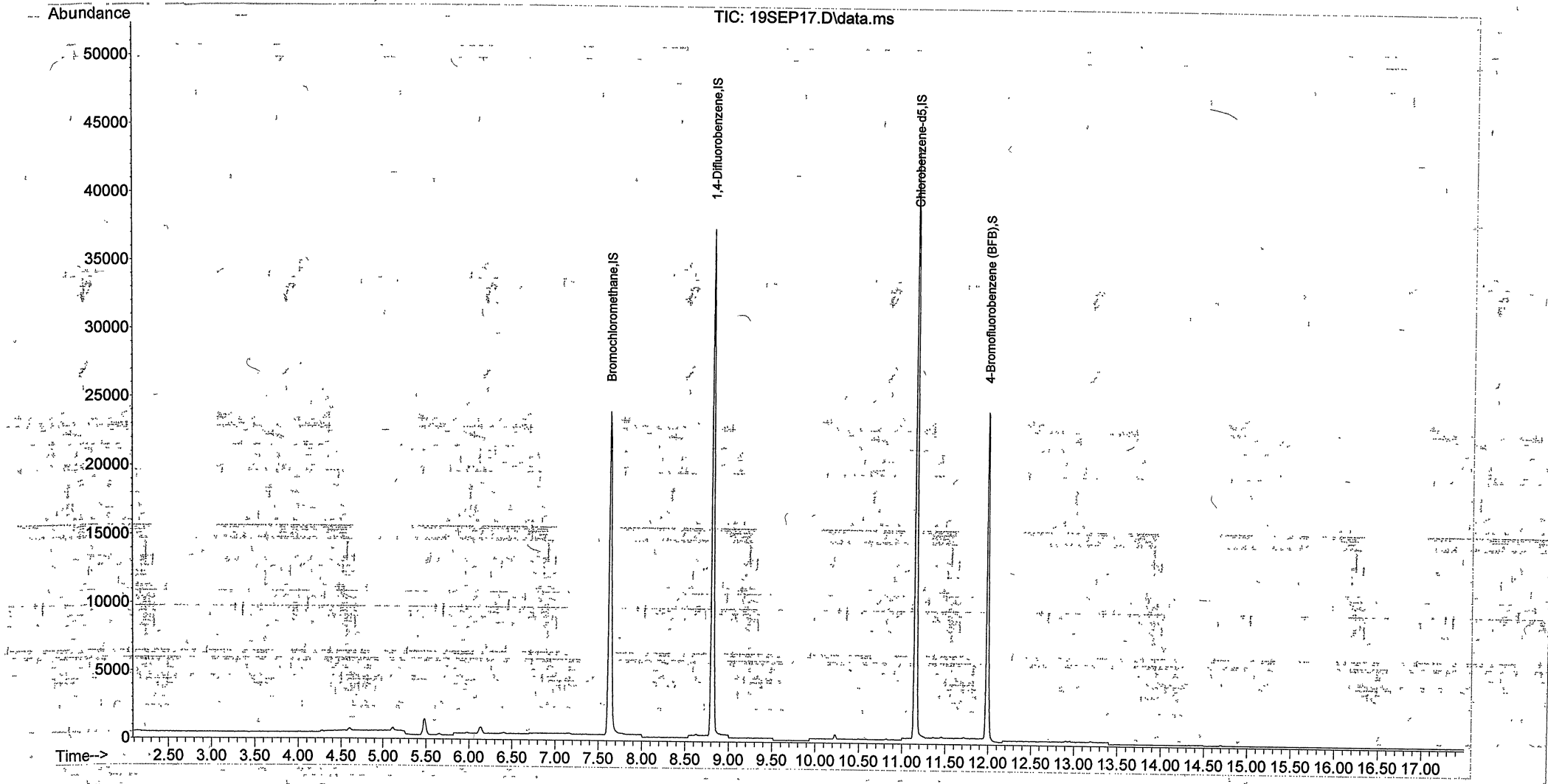
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.629	49	23065	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.813	114	42333	500.00	pptv	0.00
29) Chlorobenzene-d5	11.152	117	37348	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.985	95	17897	429.64	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 85.93%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP17.D
Acq On : 21 Sep 2024 2:35 am
Operator : BEP
Sample : BLK-744
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 23 10:33:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration



TO15_SIM.M Tue Oct 29 15:38:36 2024 ECD1

Pace Analytical®
ENVIRONMENTAL SCIENCES

Date of Report: 11/11/2024

Yola Byram

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Client Project:	[none]
Pace Project:	Walnut Bluff
Pace Work Order:	2416404
Invoice ID:	B506064, B507753

Enclosed are the results of analyses for samples received by the laboratory on 10/10/2024. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supersedes Report ID 1001544909

Sincerely,

Contact Person: Brianna Schutte
Client Services Rep

Steve Bennett
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

Table of Contents

Case Narratives

Case Narrative for Work Order 2416404

Notified client via email sample number 2416404-07 with the sample name WB07-1H was received fully evacuated

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Case Narrative

Sample Receipt

COC Number:

Samples received refrigerated to 25 °C

Sample List

Lab Number	Date/Time Sampled	Sample Name
2416404-01	10/09/2024 09:59	WB01-1H
2416404-02	10/09/2024 11:31	WB02-1H
2416404-03	10/09/2024 11:33	WB03-1H
2416404-04	10/09/2024 11:46	WB04-1H
2416404-05	10/09/2024 12:08	WB05-1H
2416404-06	10/09/2024 11:42	WB06-1H
2416404-07	10/09/2024 09:42	WB07-1H
2416404-08	10/09/2024 12:11	WB08-1H
2416404-09	10/09/2024 12:24	WB09-1H
2416404-10	10/09/2024 12:20	WB10-1H
2416404-11	10/09/2024 12:51	WB11-1H
2416404-12	10/09/2024 12:58	WB12-1H
2416404-13	10/09/2024 10:09	WB13-1H
2416404-14	10/09/2024 10:19	WB14-1H
2416404-15	10/09/2024 14:37	WB17-1H
2416404-16	10/09/2024 14:56	WB18-1H
2416404-17	10/09/2024 10:54	WB19-1H

Requested Analysis

EPA-TO-15-SIM

Sample	Analyte	Flag

Sample Qualifier Summary

There are no qualifiers for the samples.

Holding Times

All holding time requirements were met.

Method Blanks

There were no detections in the Method Blank(s).

LCS

The LCS recoveries are within QC limits.

Discussion

Pace Analytical® ENVIRONMENTAL SCIENCES

Pace Analytical® BAKERSFIELD

2A 10-10-24

Air Chain of

2416404

Report To		Project #:	
Client: Catalyst Environmental Solutions			
Attn: Yola Bayram		Project Name: Walnut	
Street Address: 315 Montana Ave Suite 311		Bluff Work Plan	
City, State, Zip: Santa Monica, CA, 90403		Sampler(s): (Print) Elizabeth Huang	
Phone: (313)204-8477 Fax:		Olivia Hogan	
Email: y bayram@ecc.solutions			
Work Order #: 24-1604 04			

Analysis Requested

Comments:

Sample #	Sample ID	Field ID / Point Of Collection	Date Sampled	Time Sampled	TO-15sim	Air Type: Soil Vapor (SV) Ambient (A)	Sampling Equipment: Initial Pressure ("Hg)	Sampling Equipment: Canister ID #	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Time	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Time	Stop Sampling Information: Canister Pressure ("Hg)	Lab Received Pressure (psia)	CLP Level: Yes / No (If "Yes", Select one) I / II / III / IV	UNITS (select one): ppbv / µg/m3	Notes
	-1	WB01-1H	10/9/24	0959	X	A	29	0787	18718	9:00	29	959	5				
	-2	WB02-1H	10/9/24	1131	X	A	29	0796	6059	1031	29	1131	4				
	-3	~~WB01~~ WB03-1H	10/9/24	1133	X	A	27	0803	5983	1035	27	1133	4				
	-4	WB04-1H	10/9/24	1146	X	A	29	23803	6016	1047	29	1146	4				
	-5	WB05-1H	10/9/24	1208	X	A	29	37503	6013	1106	29	1208	4				
	-6	WB06-1H	10/9/24	1142	X	A	30	43531	13686	1043	30	1142	4				
	-7	WB07-1H	10/9/24	0942	X	A	28	0790	13685	0836	28	0942	4				
	-8	WB08-1H	10/9/24	1211	X	A	29	49958	17517	1111	29	1211	4				
	-9	WB09-1H	10/9/24	1224	X	A	29	0800	7629	1122	29	1224	4				
	-10	WB10-1H	10/9/24	1220	X	A	28	0679	17512	1117	28	1220	3				
	-11	WB11-1H	10/9/24	1251	X	A	27	35427	18715	1152	27	1251	5				
	-12	WB12-1H	10/9/24	1258	X	A	28	C8345	13694	1158	28	1258	3				
	-13	WB13-1H	10/9/24	1009	X	A	28	49967	13676	0910	28	1009	4.5				
	-14	WB14-1H	10/9/24	1019	X	A	29	802	20201	0918	29	1019	.5				

CLP Level: [X] Yes [ ] No (If "Yes", Select one) [X] III [ ] IV

UNITS (select one): [ ] ppbv [X] µg/m3

Billing

[X] Same as above

Client:

Street Address:

City: State: Zip:

Attn: Fax:

P.O.#:

Result Request **Surcharge: [X] STD (10 Days) [ ] 5 Day** [ ] 4 Day** [ ] 3 Day** [ ] 2 Day** [ ] 1 Day**

	Relinquished By	Date	Time	Received By	Date	Time
1.		10/9/24	1615	4:15 PM	10/9/24	1615
2.		10/10/24	1330		10-10-24	1345
3.		10-10-24	1745		10-10-24	1745

4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com

Pace Analytical® BAKERSFIELD

2A 10.10.24

Air Chain of Custody Form

Page 2 of 2

Report To		Project #:	
Client: Catalyst Environmental Solutions		Project Name: Walnut Bluff	
Attn: Yola Bayram		Work Plan	
Street Address: 315 Montana Ave. Suite 311		Sampler(s): (Print) Elizabeth Hwang	
City, State, Zip: Santa Monica, CA, 90403		Olivia Hogan	
Phone: (313) 204-8477 Fax:			
Email: ybayram@ce.solutions			
Work Order #: 24-16404			

Analysis Requested

Comments:

Sample #	Sample ID	Field ID / Point Of Collection	Date Sampled	Time Sampled	TO-15-sim	Air Type: Soil Vapor (SV) Ambient (A)	Sampling Equipment: Initial Pressure ("Hg)	Sampling Equipment: Canister ID #	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Time	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Time	Stop Sampling Information: Canister Pressure ("Hg)	Lab Received Pressure (psia)	CLP Level: Yes / No (If "Yes", Select one) III / IV; UNITS (select one) ppbv / µg/m3; Notes
	-15	WB17-1H	10 9 24	1437	X	A	29	37519	13898	1330	29	1437	2		
	-16	WB18-1H	10 9 24	1456	X	A	29	0761	13677	1352	29	1456	3		
	-17	WB19-1H	10 9 24	1054	X	A	30	0744	6032	0952	30	1054	5		

CHK BY VBI DISTRIBUTION AIR SUB OUT

Billing

☒ Same as above

Client:

Street Address:

City: State: Zip:

Attn: Fax:

P.O.#:

Result Request

Surcharge ☒ STD (10 Days) ☐ 5 Day ☐ 4 Day** ☐ 3 Day** ☐ 2 Day** ☐ 1 Day**

	Relinquished By	Date	Time	Received By	Date	Time
1.		10/9/24	1615	AJ 4:15	10/9/24	1615
2.		10/10/24	1330	B. Pon	10-10-24	1345
3.	B. Poon	10-10-24	1745		10-10-24	1745

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Chain of Custody and Cooler Receipt Form for 2416404 Page 3 of 4

PACE ANALYTICLA — COOLER RECEIPT FORM — Page 1 Of 2

Submission #: 24I-16404

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐
Pace Lab Field Service ☑ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☐ None ☐ Box ☑
Other ☐ (Specify)_____

FREE LIQUID
YES ☐ NO ☑
W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received
☑ YES ☐ NO

Emissivity: — Container: Summa Thermometer ID: —
Temperature: (A) Room °C / (C) Temp °C
Date/Time 10/10/24
Analyst Init EC2 1745

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER 6L	A	A	A	A	A	A	A	A	A	A

Comments:
Sample Numbering Completed By: VJT Date/Time: 10/11/24 0700
A = Actual / C = Corrected

Rev 23 05/20/22
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PACE ANALYTICLA — **COOLER RECEIPT FORM** — Page 2 Of 2

Submission #: 24-16404

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐ Pace Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☐ None ☐ Box ☑ Other ☐ (Specify)_____	YES ☐ NO ☑ W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: — Container: Summa Thermometer ID: —

Temperature: (A) Room °C / (C) Temp °C

Date/Time 10/10/24

Analyst Init EC2 1745

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER 1L	A	A	A	A	A	A	A			

Comments:

Sample Numbering Completed By: VBT Date/Time: 10/11/24 0700

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 23]

Pace Analytical®
ENVIRONMENTAL SCIENCES

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416404-01	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 09:59
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB01-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-02	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:31
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB02-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-03	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:33
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB03-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-04	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:46
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB04-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-05	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:08
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB05-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-06	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:42
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB06-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-07	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 09:42
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB07-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter

Pace Analytical®
ENVIRONMENTAL SCIENCES

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416404-08	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:11
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB08-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-09	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:24
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB09-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-10	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB10-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-11	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:51
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB11-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-12	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:58
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB12-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-13	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 10:09
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB13-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-14	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 10:19
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB14-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter

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Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416404-15	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 14:37
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB17-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-16	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 14:56
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB18-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-17	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 10:54
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB19-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-01 | **Client Sample Name:** WB01-1H, 10/9/2024 9:59:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.8**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.25**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.090**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.57**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.22**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.65**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	91.1	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-01 | **Client Sample Name:** WB01-1H, 10/9/2024 9:59:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 01:54	BEP	MS-A2	10	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 15:11	BEP	MS-A2	1	B198723	EPA TO-15

DCN = Data Continuation Number

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-02 | **Client Sample Name:** WB02-1H, 10/9/2024 11:31:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.27**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.12**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.093**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.75**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.29**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	**0.081**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.6**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.86**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	92.5	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-02	**Client Sample Name:**	WB02-1H, 10/9/2024 11:31:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 15:57	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 02:33	BEP	MS-A2	10	B198723	EPA TO-15

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-03 | **Client Sample Name:** WB03-1H, 10/9/2024 11:33:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.11**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.093**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.81**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.20**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	**0.090**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.8**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.91**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.7**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	97.8	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-03	**Client Sample Name:**	WB03-1H, 10/9/2024 11:33:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 16:44	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 03:13	BEP	MS-A2	10	B198723	EPA TO-15

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Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-04 | **Client Sample Name:** WB04-1H, 10/9/2024 11:46:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.10**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.091**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.2**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.74**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.17**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.5**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.82**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	113	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	113	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	92.5	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-04	**Client Sample Name:**	WB04-1H, 10/9/2024 11:46:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 17:30	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 20:42	BEP	MS-A2	10	B198806	EPA TO-15

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Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-05 | **Client Sample Name:** WB05-1H, 10/9/2024 12:08:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.3**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.20**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.093**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.092**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.58**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.38**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.3**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.8**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.64**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	95.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-05	**Client Sample Name:**	WB05-1H, 10/9/2024 12:08:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 18:16	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 21:21	BEP	MS-A2	10	B198806	EPA TO-15

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-06 | **Client Sample Name:** WB06-1H, 10/9/2024 11:42:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.10**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.093**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.2**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.66**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.23**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.2**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.74**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.9**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	89.1	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-06 | **Client Sample Name:** WB06-1H, 10/9/2024 11:42:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 19:03	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 22:01	BEP	MS-A2	10	B198806	EPA TO-15

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-08 | **Client Sample Name:** WB08-1H, 10/9/2024 12:11:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.21**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.086**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.088**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.56**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.16**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.7**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.62**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	82.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-08	**Client Sample Name:**	WB08-1H, 10/9/2024 12:11:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 19:49	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 22:43	BEP	MS-A2	10	B198806	EPA TO-15

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-09 | **Client Sample Name:** WB09-1H, 10/9/2024 12:24:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.3**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.22**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.093**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.086**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.0**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.72**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.34**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.7**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.90**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	93.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-09	**Client Sample Name:**	WB09-1H, 10/9/2024 12:24:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 20:35	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 23:22	BEP	MS-A2	10	B198806	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-10 | **Client Sample Name:** WB10-1H, 10/9/2024 12:20:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.8**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.51**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.22**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.10**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.089**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.61**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.25**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**7.2**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**1.9**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.64**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	93.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-10	**Client Sample Name:**	WB10-1H, 10/9/2024 12:20:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 00:03	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 21:21	BEP	MS-A2	1	B198723	EPA TO-15

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Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-11 | **Client Sample Name:** WB11-1H, 10/9/2024 12:51:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.8**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.19**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.11**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.10**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**0.89**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.67**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.31**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	**0.077**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.1**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.75**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.8**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	95.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	115	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	115	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-11	**Client Sample Name:**	WB11-1H, 10/9/2024 12:51:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 00:42	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 22:08	BEP	MS-A2	1	B198723	EPA TO-15

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-12 | **Client Sample Name:** WB12-1H, 10/9/2024 12:58:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.7**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.20**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.085**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.10**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**1.7**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.80**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.30**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	**0.072**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Toluene	**3.0**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.6**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.92**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**3.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	94.1	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-12 | **Client Sample Name:** WB12-1H, 10/9/2024 12:58:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 01:22	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 22:54	BEP	MS-A2	1	B198723	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-13 | **Client Sample Name:** WB13-1H, 10/9/2024 10:09:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.9**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.22**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.093**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**0.98**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.57**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.24**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**2.9**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**1.9**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.65**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	84.6	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-13	**Client Sample Name:**	WB13-1H, 10/9/2024 10:09:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 02:04	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 23:40	BEP	MS-A2	1	B198723	EPA TO-15

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Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-14 | **Client Sample Name:** WB14-1H, 10/9/2024 10:19:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.9**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.24**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.097**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**0.99**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.58**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.23**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**3.2**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.68**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.7**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	85.8	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-14	**Client Sample Name:**	WB14-1H, 10/9/2024 10:19:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 02:45	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 00:27	BEP	MS-A2	1	B198723	EPA TO-15

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-15 | **Client Sample Name:** WB17-1H, 10/9/2024 2:37:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.88**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.19**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.080**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.070**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.67**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.61**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.18**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	**0.074**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Toluene	**1.7**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.67**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-15	**Client Sample Name:**	WB17-1H, 10/9/2024 2:37:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 01:13	BEP	MS-A2	1	B198723	EPA TO-15

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-16 | **Client Sample Name:** WB18-1H, 10/9/2024 2:56:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.1**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.20**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.092**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.073**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.80**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.52**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.13**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	**0.12**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**		**1**
Toluene	**2.5**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.5**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.56**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.0**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	86.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-16 | **Client Sample Name:** WB18-1H, 10/9/2024 2:56:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/14/24 09:06	10/14/24 19:16	BEP	MS-A2	1	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/14/24 09:06	10/15/24 03:24	BEP	MS-A2	10	B198806	EPA TO-15

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-17 | **Client Sample Name:** WB19-1H, 10/9/2024 10:54:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.6**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.091**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.69**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.77**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.54**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.78**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	96.6	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-17 | **Client Sample Name:** WB19-1H, 10/9/2024 10:54:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/14/24 09:06	10/14/24 20:02	BEP	MS-A2	1	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/14/24 09:06	10/15/24 09:56	BEP	MS-A2	10	B198806	EPA TO-15

DCN = Data Continuation Number

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B198723							
Benzene	B198723-BLK1	ND	ug/m3	0.050	0.0032		1
Benzyl chloride	B198723-BLK1	ND	ug/m3	0.50	0.0052		1
Carbon tetrachloride	B198723-BLK1	ND	ug/m3	0.20	0.0063		1
Chlorobenzene	B198723-BLK1	ND	ug/m3	0.10	0.0079		1
Chloroform	B198723-BLK1	ND	ug/m3	0.050	0.0058		1
1,2-Dibromoethane	B198723-BLK1	ND	ug/m3	0.20	0.014		1
1,2-Dichlorobenzene	B198723-BLK1	ND	ug/m3	0.20	0.011		1
1,3-Dichlorobenzene	B198723-BLK1	ND	ug/m3	0.20	0.013		1
1,4-Dichlorobenzene	B198723-BLK1	ND	ug/m3	0.20	0.016		1
Dichlorodifluoromethane	B198723-BLK1	ND	ug/m3	0.050	0.0052		1
1,1-Dichloroethane	B198723-BLK1	ND	ug/m3	0.050	0.0041		1
1,2-Dichloroethane	B198723-BLK1	ND	ug/m3	0.10	0.0046		1
1,1-Dichloroethene	B198723-BLK1	ND	ug/m3	0.050	0.0078		1
cis-1,2-Dichloroethene	B198723-BLK1	ND	ug/m3	0.050	0.0044		1
trans-1,2-Dichloroethene	B198723-BLK1	ND	ug/m3	0.050	0.0075		1
trans-1,3-Dichloropropene	B198723-BLK1	ND	ug/m3	0.050	0.013		1
1,1-Difluoroethane	B198723-BLK1	ND	ug/m3	5.0	0.0027		1
Ethylbenzene	B198723-BLK1	ND	ug/m3	0.050	0.017		1
Naphthalene	B198723-BLK1	ND	ug/m3	0.20	0.020		1
Tetrachloroethene	B198723-BLK1	ND	ug/m3	0.10	0.011		1
Toluene	B198723-BLK1	ND	ug/m3	0.10	0.0062		1
1,1,1-Trichloroethane	B198723-BLK1	ND	ug/m3	0.10	0.0055		1
1,1,2-Trichloroethane	B198723-BLK1	ND	ug/m3	0.10	0.0055		1
Trichloroethene	B198723-BLK1	ND	ug/m3	0.10	0.0095		1
Trichlorofluoromethane	B198723-BLK1	ND	ug/m3	0.050	0.0057		1
1,1,2-Trichloro-1,2,2-trifluoroethane	B198723-BLK1	ND	ug/m3	0.10	0.0078		1
Vinyl chloride	B198723-BLK1	ND	ug/m3	0.020	0.0046		1
p- & m-Xylenes	B198723-BLK1	ND	ug/m3	0.050	0.0082		1
o-Xylene	B198723-BLK1	ND	ug/m3	0.050	0.0044		1
Total Xylenes	B198723-BLK1	ND	ug/m3	0.10	0.013		1
4-Bromofluorobenzene (Surrogate)	**B198723-BLK1**	**92.1**	%	**50 - 150 (LCL - UCL)**			1
QC Batch ID: B198806							
Benzene	B198806-BLK1	ND	ug/m3	0.050	0.0032		2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B198806							
Benzyl chloride	B198806-BLK1	ND	ug/m3	0.50	0.0052		2
Carbon tetrachloride	B198806-BLK1	ND	ug/m3	0.20	0.0063		2
Chlorobenzene	B198806-BLK1	ND	ug/m3	0.10	0.0079		2
Chloroform	B198806-BLK1	ND	ug/m3	0.050	0.0058		2
1,2-Dibromoethane	B198806-BLK1	ND	ug/m3	0.20	0.014		2
1,2-Dichlorobenzene	B198806-BLK1	ND	ug/m3	0.20	0.011		2
1,3-Dichlorobenzene	B198806-BLK1	ND	ug/m3	0.20	0.013		2
1,4-Dichlorobenzene	B198806-BLK1	ND	ug/m3	0.20	0.016		2
Dichlorodifluoromethane	B198806-BLK1	ND	ug/m3	0.050	0.0052		2
1,1-Dichloroethane	B198806-BLK1	ND	ug/m3	0.050	0.0041		2
1,2-Dichloroethane	B198806-BLK1	ND	ug/m3	0.10	0.0046		2
1,1-Dichloroethene	B198806-BLK1	ND	ug/m3	0.050	0.0078		2
cis-1,2-Dichloroethene	B198806-BLK1	ND	ug/m3	0.050	0.0044		2
trans-1,2-Dichloroethene	B198806-BLK1	ND	ug/m3	0.050	0.0075		2
trans-1,3-Dichloropropene	B198806-BLK1	ND	ug/m3	0.050	0.013		2
1,1-Difluoroethane	B198806-BLK1	ND	ug/m3	5.0	0.0027		2
Ethylbenzene	B198806-BLK1	ND	ug/m3	0.050	0.017		2
Naphthalene	B198806-BLK1	ND	ug/m3	0.20	0.020		2
Tetrachloroethene	B198806-BLK1	ND	ug/m3	0.10	0.011		2
Toluene	B198806-BLK1	ND	ug/m3	0.10	0.0062		2
1,1,1-Trichloroethane	B198806-BLK1	ND	ug/m3	0.10	0.0055		2
1,1,2-Trichloroethane	B198806-BLK1	ND	ug/m3	0.10	0.0055		2
Trichloroethene	B198806-BLK1	ND	ug/m3	0.10	0.0095		2
Trichlorofluoromethane	B198806-BLK1	ND	ug/m3	0.050	0.0057		2
1,1,2-Trichloro-1,2,2-trifluoroethane	B198806-BLK1	ND	ug/m3	0.10	0.0078		2
Vinyl chloride	B198806-BLK1	ND	ug/m3	0.020	0.0046		2
p- & m-Xylenes	B198806-BLK1	ND	ug/m3	0.050	0.0082		2
o-Xylene	B198806-BLK1	ND	ug/m3	0.050	0.0044		2
Total Xylenes	B198806-BLK1	ND	ug/m3	0.10	0.013		2
4-Bromofluorobenzene (Surrogate)	**B198806-BLK1**	**95.4**	%	**50 - 150 (LCL - UCL)**			2

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	Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B198723-BLK1	PB	EPA-TO-15-SIM	10/11/24	10/11/24 14:23	BEP	MS-A2	1
2	B198806-BLK1	PB	EPA-TO-15-SIM	10/14/24	10/14/24 16:11	BEP	MS-A2	1

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B198723											
Benzene	B198723-BS1	LCS	0.33316	0.31948	ug/m3	104		70 - 130			1
	B198723-BSD1	LCSD	0.34254	0.31948	ug/m3	107	2.8	70 - 130	25		2
Benzyl chloride	B198723-BS1	LCS	0.57789	0.51772	ug/m3	112		70 - 130			1
	B198723-BSD1	LCSD	0.49353	0.51772	ug/m3	95.3	15.7	70 - 130	25	J	2
Carbon tetrachloride	B198723-BS1	LCS	0.72246	0.62913	ug/m3	115		70 - 130			1
	B198723-BSD1	LCSD	0.70909	0.62913	ug/m3	113	1.9	70 - 130	25		2
Chlorobenzene	B198723-BS1	LCS	0.53771	0.46036	ug/m3	117		70 - 130			1
	B198723-BSD1	LCSD	0.51817	0.46036	ug/m3	113	3.7	70 - 130	25		2
Chloroform	B198723-BS1	LCS	0.56905	0.48825	ug/m3	117		70 - 130			1
	B198723-BSD1	LCSD	0.56923	0.48825	ug/m3	117	0.0	70 - 130	25		2
1,2-Dibromoethane	B198723-BS1	LCS	0.91575	0.76835	ug/m3	119		70 - 130			1
	B198723-BSD1	LCSD	0.87062	0.76835	ug/m3	113	5.1	70 - 130	25		2
1,2-Dichlorobenzene	B198723-BS1	LCS	0.67972	0.60124	ug/m3	113		70 - 130			1
	B198723-BSD1	LCSD	0.64027	0.60124	ug/m3	106	6.0	70 - 130	25		2
1,3-Dichlorobenzene	B198723-BS1	LCS	0.69255	0.60124	ug/m3	115		70 - 130			1
	B198723-BSD1	LCSD	0.63229	0.60124	ug/m3	105	9.1	70 - 130	25		2
1,4-Dichlorobenzene	B198723-BS1	LCS	0.70998	0.60124	ug/m3	118		70 - 130			1
	B198723-BSD1	LCSD	0.63415	0.60124	ug/m3	105	11.3	70 - 130	25		2
1,1-Dichloroethane	B198723-BS1	LCS	0.45441	0.40474	ug/m3	112		70 - 130			1
	B198723-BSD1	LCSD	0.45405	0.40474	ug/m3	112	0.1	70 - 130	25		2
1,2-Dichloroethane	B198723-BS1	LCS	0.47149	0.40474	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.47265	0.40474	ug/m3	117	0.2	70 - 130	25		2
1,1-Dichloroethene	B198723-BS1	LCS	0.42913	0.39649	ug/m3	108		70 - 130			1
	B198723-BSD1	LCSD	0.43508	0.39649	ug/m3	110	1.4	70 - 130	25		2
cis-1,2-Dichloroethene	B198723-BS1	LCS	0.42444	0.39649	ug/m3	107		70 - 130			1
	B198723-BSD1	LCSD	0.42756	0.39649	ug/m3	108	0.7	70 - 130	25		2
Tetrachloroethene	B198723-BS1	LCS	0.80707	0.67825	ug/m3	119		70 - 130			1
	B198723-BSD1	LCSD	0.80118	0.67825	ug/m3	118	0.7	70 - 130	25		2
Toluene	B198723-BS1	LCS	0.40311	0.37684	ug/m3	107		70 - 130			1
	B198723-BSD1	LCSD	0.39207	0.37684	ug/m3	104	2.8	70 - 130	25		2
1,1,1-Trichloroethane	B198723-BS1	LCS	0.63396	0.54562	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.63793	0.54562	ug/m3	117	0.6	70 - 130	25		2
1,1,2-Trichloroethane	B198723-BS1	LCS	0.66127	0.54562	ug/m3	121		70 - 130			1
	B198723-BSD1	LCSD	0.64257	0.54562	ug/m3	118	2.9	70 - 130	25		2
Trichloroethene	B198723-BS1	LCS	0.62429	0.53737	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.61305	0.53737	ug/m3	114	1.8	70 - 130	25		2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B198723											
Vinyl chloride	B198723-BS1	LCS	0.29600	0.25562	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.29587	0.25562	ug/m3	116	0.0	70 - 130	25		2
p- & m-Xylenes	B198723-BS1	LCS	0.93244	0.86843	ug/m3	107		70 - 130			1
	B198723-BSD1	LCSD	0.94491	0.86843	ug/m3	109	1.3	70 - 130	25		2
o-Xylene	B198723-BS1	LCS	0.47821	0.43421	ug/m3	110		70 - 130			1
	B198723-BSD1	LCSD	0.48047	0.43421	ug/m3	111	0.5	70 - 130	25		2
Total Xylenes	B198723-BS1	LCS	1.4107	1.3026	ug/m3	108		70 - 130			1
	B198723-BSD1	LCSD	1.4254	1.3026	ug/m3	109	1.0	70 - 130	25		2
4-Bromofluorobenzene (Surrogate)	B198723-BS1	LCS	3.75	3.58	ug/m3	105		50 - 150			1
	B198723-BSD1	LCSD	3.47	3.58	ug/m3	96.9	8.0	50 - 150			2
QC Batch ID: B198806											
Benzene	B198806-BS1	LCS	0.35204	0.31948	ug/m3	110		70 - 130			3
	B198806-BSD1	LCSD	0.35688	0.31948	ug/m3	112	1.4	70 - 130	25		4
Benzyl chloride	B198806-BS1	LCS	0.60417	0.51772	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.59163	0.51772	ug/m3	114	2.1	70 - 130	25		4
Carbon tetrachloride	B198806-BS1	LCS	0.70353	0.62913	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.72010	0.62913	ug/m3	114	2.3	70 - 130	25		4
Chlorobenzene	B198806-BS1	LCS	0.52251	0.46036	ug/m3	114		70 - 130			3
	B198806-BSD1	LCSD	0.54190	0.46036	ug/m3	118	3.6	70 - 130	25		4
Chloroform	B198806-BS1	LCS	0.57621	0.48825	ug/m3	118		70 - 130			3
	B198806-BSD1	LCSD	0.58433	0.48825	ug/m3	120	1.4	70 - 130	25		4
1,2-Dibromoethane	B198806-BS1	LCS	0.89439	0.76835	ug/m3	116		70 - 130			3
	B198806-BSD1	LCSD	0.91096	0.76835	ug/m3	119	1.8	70 - 130	25		4
1,2-Dichlorobenzene	B198806-BS1	LCS	0.70758	0.60124	ug/m3	118		70 - 130			3
	B198806-BSD1	LCSD	0.69842	0.60124	ug/m3	116	1.3	70 - 130	25		4
1,3-Dichlorobenzene	B198806-BS1	LCS	0.72037	0.60124	ug/m3	120		70 - 130			3
	B198806-BSD1	LCSD	0.71854	0.60124	ug/m3	120	0.3	70 - 130	25		4
1,4-Dichlorobenzene	B198806-BS1	LCS	0.74288	0.60124	ug/m3	124		70 - 130			3
	B198806-BSD1	LCSD	0.74449	0.60124	ug/m3	124	0.2	70 - 130	25		4
1,1-Dichloroethane	B198806-BS1	LCS	0.46873	0.40474	ug/m3	116		70 - 130			3
	B198806-BSD1	LCSD	0.46911	0.40474	ug/m3	116	0.1	70 - 130	25		4
1,2-Dichloroethane	B198806-BS1	LCS	0.47500	0.40474	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.48588	0.40474	ug/m3	120	2.3	70 - 130	25		4
1,1-Dichloroethene	B198806-BS1	LCS	0.44522	0.39649	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.46220	0.39649	ug/m3	117	3.7	70 - 130	25		4
cis-1,2-Dichloroethene	B198806-BS1	LCS	0.44975	0.39649	ug/m3	113		70 - 130			3
	B198806-BSD1	LCSD	0.44477	0.39649	ug/m3	112	1.1	70 - 130	25		4

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Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B198806											
Tetrachloroethene	B198806-BS1	LCS	0.77710	0.67825	ug/m3	115		70 - 130			3
	B198806-BSD1	LCSD	0.80833	0.67825	ug/m3	119	3.9	70 - 130	25		4
Toluene	B198806-BS1	LCS	0.40225	0.37684	ug/m3	107		70 - 130			3
	B198806-BSD1	LCSD	0.42078	0.37684	ug/m3	112	4.5	70 - 130	25		4
1,1,1-Trichloroethane	B198806-BS1	LCS	0.64072	0.54562	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.65835	0.54562	ug/m3	121	2.7	70 - 130	25		4
1,1,2-Trichloroethane	B198806-BS1	LCS	0.62359	0.54562	ug/m3	114		70 - 130			3
	B198806-BSD1	LCSD	0.64832	0.54562	ug/m3	119	3.9	70 - 130	25		4
Trichloroethene	B198806-BS1	LCS	0.60167	0.53737	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.62790	0.53737	ug/m3	117	4.3	70 - 130	25		4
Vinyl chloride	B198806-BS1	LCS	0.29952	0.25562	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.30319	0.25562	ug/m3	119	1.2	70 - 130	25		4
p- & m-Xylenes	B198806-BS1	LCS	0.96885	0.86843	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.99360	0.86843	ug/m3	114	2.5	70 - 130	25		4
o-Xylene	B198806-BS1	LCS	0.48972	0.43421	ug/m3	113		70 - 130			3
	B198806-BSD1	LCSD	0.50139	0.43421	ug/m3	115	2.4	70 - 130	25		4
Total Xylenes	B198806-BS1	LCS	1.4586	1.3026	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	1.4950	1.3026	ug/m3	115	2.5	70 - 130	25		4
4-Bromofluorobenzene (Surrogate)	B198806-BS1	LCS	3.86	3.58	ug/m3	108		50 - 150			3
	B198806-BSD1	LCSD	3.74	3.58	ug/m3	105	3.0	50 - 150			4

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B198723-BS1	LCS	EPA-TO-15-SIM	10/11/24	10/11/24 12:53	BEP	MS-A2	1
2	B198723-BSD1	LCSD	EPA-TO-15-SIM	10/11/24	10/11/24 13:37	BEP	MS-A2	1
3	B198806-BS1	LCS	EPA-TO-15-SIM	10/14/24	10/14/24 14:40	BEP	MS-A2	1
4	B198806-BSD1	LCSD	EPA-TO-15-SIM	10/14/24	10/14/24 16:54	BEP	MS-A2	1

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	Project Manager: Yola Byram

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

Appendix H

PID Calibration Certificates

FIELD ENVIRONMENTAL INSTRUMENTS, INC.
www.fieldenvironmental.com

301 Brushton Ave
Suite A
Pittsburgh, PA 15221
Toll Free (800) 393-4009
Local (412) 436-2600
Fax (412) 436-2616

Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard	Reading	Acceptable Range
10 ppm	10	(98 - 102)

Pump Flow mL/min	Acceptable Range
481	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.94	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package — Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included — Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-000293
Barcode	U55428X
Order #	561931

Calibrated By Christian Pinto

Date of Calibration 9/25/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

FIELD ENVIRONMENTAL INSTRUMENTS, INC.
www.fieldenvironmental.com

301 Brushton Ave
Suite A
Pittsburgh, PA 15221
Toll Free (800) 393-4009
Local (412) 436-2600
Fax (412) 436-2616

Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
523	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.96	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-900569
Barcode	U57479X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(9.8 - 10.2)

Pump Flow mL/min	Acceptable Range
570	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.01	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594900570
Barcode	U57503X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/26/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(9.8 - 10.2)

Pump Flow mL/min	Acceptable Range
510	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.94	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-900568
Barcode	U57541X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/26/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
499	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.07	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-900641
Barcode	U58038X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
523	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.02	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-901576
Barcode	U62797X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
555	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.94	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-902247
Barcode	U65825X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard	Reading	Acceptable Range
10 ppm	10	(9.8 - 10.2)

Pump Flow mL/min	Acceptable Range
427	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.04	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package — Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included — Yes
(4 X AA Batteries)

Model	
Lamp	10.6 eV
S/N	M01FA04151
Barcode	U85284X
Order #	561931

Calibrated By Christian Pinto

Date of Calibration 9/26/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
506	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.2	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-917344
Barcode	U107793X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(9.8 - 10.2)

Pump Flow mL/min	Acceptable Range
483	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.06	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-917345
Barcode	U110414X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/26/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
512	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.97	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-912843
Barcode	U110744X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

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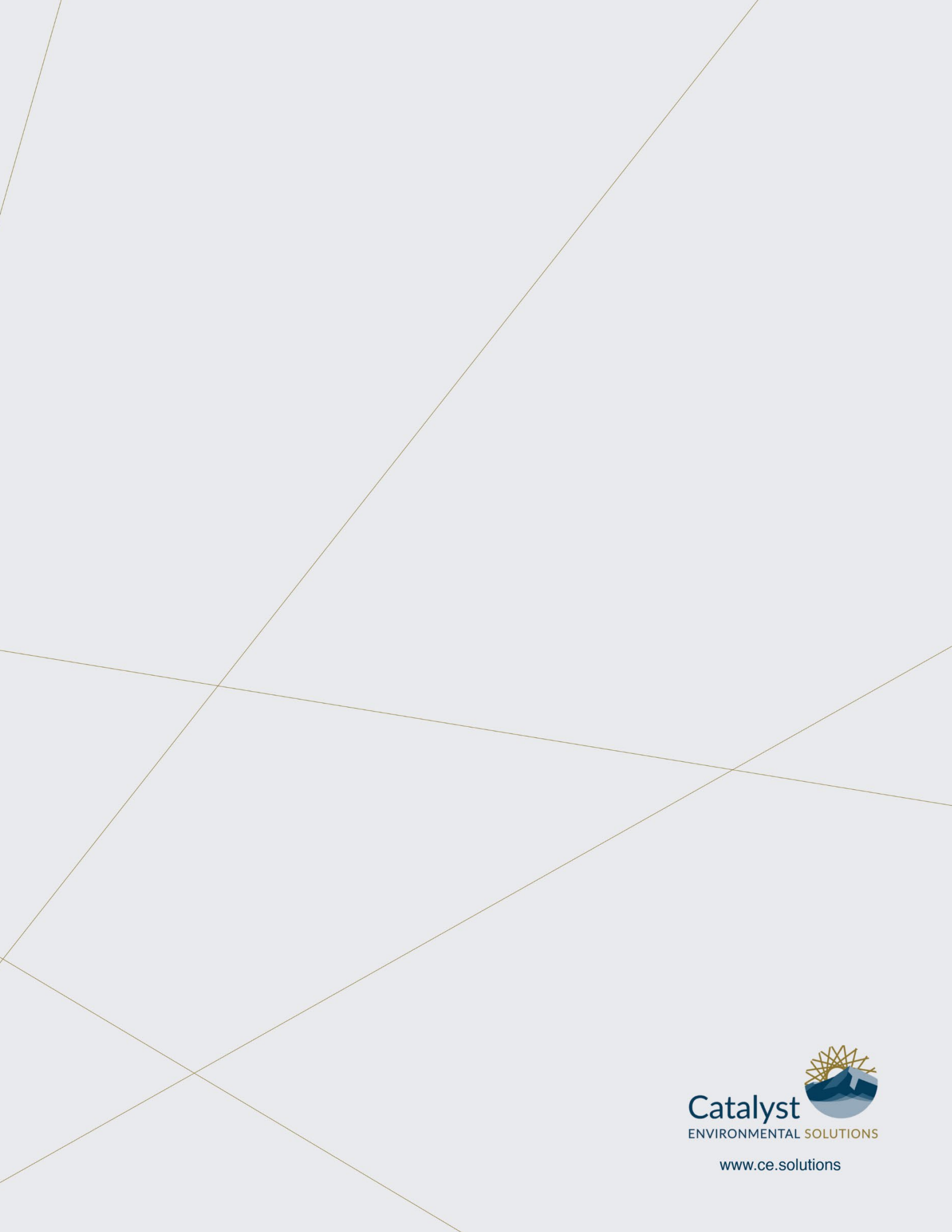
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